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VETERINARY SURGEONS AND THE *FIELD*.

ON Tuesday, the 18th January, in the English Court of Appeal, before Lords Justices A. L. Smith, Chitty, and Collins, a horse case was decided.

The facts of the case were somewhat as follows:—

A Mr. Broadwood, of Malvern Wells, employed a veterinary surgeon named Pinkett to look out for a pair of carriage horses, promising him either then, or at some subsequent period, a present of £10 in addition to his professional charges should he be successful in meeting with a suitable pair. Pinkett informed his principal that Shipway, a dealer, of Worcester, had for disposal a pair of horses such as he thought would suit Mr. Broadwood. The agreement between buyer and seller appeared to be that Mr. Broadwood would purchase the horses, provided they were passed sound by Pinkett, the price being £200. Pinkett, who declared the horses to be sound, forwarded his certificate to his employer, who thereupon bought the horses, which were sent to his premises, and on the following day a cheque was sent for the amount. Meantime one horse, if not both, was found to be lame, so another veterinary surgeon was called in, and he certified that the horses were unsound, lameness and bad feet being the defects. Thereupon Mr. Broadwood stopped his cheque, and sent the horses back to the vendor, who declined to receive them, though, as a matter of fact, he did keep them in his stable for one night, and then sent them to some hotel stables, at the same time notifying Mr. Broadwood that they stood there at his cost. The horses were subsequently resold

at a loss, and the dealer commenced an action against the buyer on the cheque, payment of which was stopped. The case was tried before Mr. Justice Day, without a jury, at Worcester. The veterinary surgeon then admitted, in cross-examination, that he had made the egregious mistake of accepting a present from Shipway, the dealer and vendor; yet no notice appears to have been taken by either judge or counsel of this by no means immaterial point, with the result that judgment was given in favour of the dealer for £200, the amount of the cheque. Against that decision Mr. Broadwood appealed, and the judgment of the court below was promptly and emphatically upset. During the course of the trial some stress was laid (but for what purpose it is not easy to understand) upon the fact that the buyer of the horses had promised the veterinary surgeon a present of £10 in addition to his professional charges, but here, at any rate, there was no question of *mala fides*. In the first place, the veterinary surgeon was employed by the buyer, and, consequently, no amount of money that the buyer could give his agent could have been offered for the purpose of inducing him to make out a false certificate. The anxiety to gain the £10 might, on the other hand, have caused Pinkett to look with a lenient eye upon any defect in the horses; but, still, the mere fact of the principal presenting his own agent with a gift would certainly have been no ground for reversing the judgment of Mr. Justice Day.

All three of the judges in the Court of Appeal were quite unanimous in their decision, and they declared at once that the acceptance of what they called "a bribe" from the horse dealer, and the subsequent giving of a wrong certificate, constituted fraud, which nullified the sale. It was clear, said Lord Justice A. L. Smith, from the evidence of Pinkett himself, that the plaintiff offered him (Pinkett) a commission by way of bribe if the horses were sold. The meaning of that was, that if Pinkett gave his certificate, and the horses were sold in consequence, he would have a commission. Lord Justice Chitty observed, with some force, that Shipway, the dealer, had placed Pinkett in a position in which his duty conflicted with his interest, and that no person should place himself in such a position; while the third judge was no less emphatic, saying that there was a personal incapacity in the plaintiff to maintain an action on the contract.

Now, the *Field*, in its leading article in its issue for the 21st January, not content with reviewing the case, and quite properly condemning such disgraceful practise by the

veterinary surgeon, proceeds from the individual to attack the body of the veterinary profession, or an important section of it. It is quite true that the writer of the *Field* article does not adopt a deliberately offensive tone; he writes, as one might say, more in sorrow than in anger, and he couples us with people of exalted station, and rather indicates that we are infected with the prevailing base morality than charges us with special wickedness. He says:—

"It is perfectly well known, too, that there are in England a certain number of veterinary surgeons who dare not, except in the most palpable cases, declare a dealer's horse unsound, save, of course, when they deposit the secret in the dealer's private ear."

The charge is a most serious one, and must be promptly challenged. We have a special committee of the Royal College of Veterinary Surgeons whose duty it is to inquire into all charges of professional misconduct and to punish the offender even to the extent of removing his name from the roll, should his offence be a very heinous one. It is, however, proverbially difficult to prove a negative, and therefore the hands of the committee must be strengthened when they proceed to defy the editor of the *Field* to prove his accusation against us. I therefore earnestly entreat all the veterinary societies and associations throughout the country to make this matter a subject of the most careful inquiry amongst their members. I cannot believe that there are more Jonahs than this unfortunate Mr. Pinkett to cast overboard, but the most searching inquiry must be made; thereafter representations must be sent to the Registration Committee, and, with a united front, we must attack the editor of the *Field* and compel him to proceed to the proof of his grave accusations, or to apologise to the veterinary profession for his calumny. We cannot remain passive; to do so would mean that we plead guilty, that we are men who do not understand what is meant by the word "honour." We have been attacked, and this attack must be repelled at the point of the sword.

We quite agree with the *Field* in its strictures on horse-dealing veterinary surgeons. The two pursuits are incompatible. A veterinary surgeon should be a man of irreproachable character if he desire to have the confidence of the public and the respect of his brethren.

TREATMENT OF LAMENESS.

I BELIEVE the orthodox treatment for the majority of lamenesses in horses (excepting those due to injuries, which require special treatment) is to give the animal a dose of physic, foment the affected part for a few days, then apply cold water and bandages, and, if the lameness remains, to blister, or even to fire and blister. I have no doubt that, in a great number of cases, success ultimately results.. But it seems to me this rule of thumb method of treatment might be altered considerably.

To begin with, I am of opinion that a large number of horses are prone to rheumatoid affections, even if they are not gouty, and what can be expected when we take into consideration the frequent opportunities they have of getting chilled and over-heated in the course of each day's work.

Indeed, it has been suggested recently by more than one eminent authority that rheumatism, with its near relatives, lumbago, sciatica, etc. (in man), are, in some way, connected with the formation of minute crystals in the kidney epithelium, a condition of matters closely resembling gout. From the greater turpidity of the urine in the horse, this deposit would appear to be the more easily induced.

Further, it is easily seen that, with greater flow of water through the kidney, the above-mentioned conditions are less likely to take place.

I think that a considerable number of horses do not get a sufficiency of water, and in consequence of this, there is a tendency to the deposition of salts in various parts of the body, and that these depositions frequently give rise to lameness.

For some time past I have, sometimes in conjunction with, and sometimes without, the orthodox treatment of articular and bursal affections, adminstered alkalies internally, and specially among them being the carbonates of soda and potass, and iodide of potass, and I have given instructions that the animal receive water *ad libitum;* and the necessity for very free supply of water when the alkaline treatment is resorted to is quite in agreement with the above, and I have certainly found good results from this practice.

In one case, in which the formation of a spavin was threatened, I used no local application, but treated the animal with alkalies, and within a fortnight it became sound, and remains so.

So closely is rheumatism, in its various forms, connected with disordered assimilation and excretion, that it seems well nigh useless to treat it at all by local application, or if that is done, to expect more than mere temporary relief from some purely local symptoms of the affection.

I do not claim any originality as regards this treatment, but simply wish to point it out to those who have not tried it.

In proof, I purpose pursuing the method as occasion occurs, and trust to give a record of cases later on.

After all, it would seem that until some specific be discovered (of which modern medical science knows but little), the main chance of recovery is to be found in attending to the proper food, as to quantity and quality, in its relation to the animal's state of activity.

TUBERCULIN EXPERIMENTS.

WE have much pleasure in publishing an extract from *The Queensland Agricultural Journal* for November, 1898, and would specially direct our readers' attention to one part of it, in which it states that tuberculin inoculation neither affects the quality or the quantity of the milk; and in the same paragraph it states that observations should commence twelve hours after the inoculation.

At present experiments are being carried out in Scotland, to determine whether or not the quality of the milk is altered, as only a few days ago a dairyman, who was being prosecuted for selling inferior milk, pleaded, in defence, that his cows were suffering from the effects of tuberculin injection.

From our own experience we advise that observations be commenced six hours after inoculation, as even then there may be elevation of temperature, and it may die down before the twelfth hour:—

THE APPLICATION OF THE TUBERCULIN TEST TO THE DAIRY CATTLE ON THE ISLAND OF ST. HELENA.

REPORT BY MR. J. C. POUND, DIRECTOR OF THE QUEENSLAND STOCK INSTITUTE, TO THE CHIEF INSPECTOR OF STOCK.

History of the Herd.

FOR upwards of twenty years the dairy cattle on the island of St. Helena were a mixture of the ordinary milking Shorthorns and the Illawarra breed.

In 1892 steps were taken to improve the herd by the introduction of a number of pure-bred cows and a bull of the Ayrshire breed. Since then several fresh Ayrshire bulls from some of the best imported stock have from time to time been introduced. By gradual culling and systematic selection, Mr. Bowden, who has charge and management of the herd, intends at an early date to have nothing but pure-bred Ayreshires on the island.

At present the herd is constituted as follows :—

23	Pure-bred Ayreshire cows.	
18	,, ,,	heifers.
1	,, ,,	bull (adult).
6	,, ,,	bulls (under one year old.)
10	Illawarra and cross-bred cows.	
10	,, ,,	heifers.
Total, 68		

The first positive evidence of the existence of tuberculosis in the herd came under my notice as follows :—On the 12th July, 1895, three years ago, I was instructed by the Hon. the Colonial Secretary to proceed to the island of St. Helena to examine and report on two cows that were suspected to have died from eating some indigenous poisonous plant. The *post-mortem* and a microscopical examination revealed the fact that the immediate cause of death was symptomatic anthrax or "blackleg." At the same time it was noticed that the oldest animal (a pedigree Ilawarra cow) was also affected with generalised tuberculosis, including the two anterior quarters of the mammary gland or udder.

In view of this discovery, I expressed the opinion that it was more than probable that other animals in the herd were affected with tuberculosis. I therefore recommended that the milk of every cow should be subjected daily to the process of sterilisation, until such time as the herd could be tested with tuberculin, when all animals that gave a reaction should be eliminated and destroyed.

Mr. Bowden informed me that about twelve months ago one or two unthrifty-looking cows were killed, and when they were opened the same lesions of disease—namely, tuberculosis—were manifest. In consequence of these facts, and by somewhat extensive experiments with tuberculin under many varied conditions, every application proving more and more its practical infallibleness and marvellous significance, I recently suggested to the Comptroller-General of Prisons (Captain Pennefather) the urgent necessity of having the entire herd subjected to the tuberculin test. To this Captain Pennefather willingly consented, and, with Ministerial authority, I visited St. Helena on the 1st September last, and tested with tuberculin the entire herd of sixty-eight animals, completing the work by the 7th September.

Notes on the General Management of the Herd.

The various grass paddocks in which the cattle run are scarcely more than 100 acres in extent; consequently the animals receive a large amount of stall feeding, the food principally consisting of fresh-cut Kaffir-corn, chaffed green and dry lucerne, sweet potatoes, and an assortment of rye and oaten grass, &c.—in fact, all rich, nourishing, cultivation fodder.

In one of the smaller paddocks there is a splendid long shed, open on one side, with thirty well-designed, roomy stalls, perfect drainage, and means for easily getting rid of manure.

In an adjoining paddock there is ample accommodation in the way of stalls, sheds, good yards, &c., for housing at least another forty animals; and considering that there is an ample supply of cheap labour (the cleaning, feeding, and milking operations all being carried out by the prisoners), the animals are specially well cared for. The cows are milked very regularly— namely, commencing punctually at 5 o'clock in the morning, and 2 o'clock in the afternoon; feeding is also conducted at regular hours.

During my visit, there was not one sickly-looking animal in the whole herd, every beast, with the exception of a few of the very young calves, looking in the pink of condition, and, as far as the disease tuberculosis was concerned, every animal would have passed a general physical examination; and yet when the tuberculin test was applied, it rapidly detected the presence of this dread disease in seven of the primest cows, which in truth might be regarded, from their breeding, milking qualities, and general appearance, as the pick of the herd.

Notes on the results of the tuberculin test.

It will be seen from the tables of temperatures that, of the entire herd of 68 animals, 7 or just over 10 per cent. were found tuberculous, which if we take only the 33 milking cows is about 21 per cent.; yet when compared with the testing of valuable pedigree herds kept under similar conditions in other countries, the percentage of tubercular animals is not very great. Of the 7 tuberculous animals, 5 were pure-bred Ayrshires, 1 milking Shorthorn, and 1 pure-bred Illawarra. Two of the Ayrshires—viz., Annie and Snowdrop—being heavy in calf, were only given a few pints of milk each day, the milk being boiled, and afterwards given to the pigs. The remaining 5, which were much more advanced in pregnancy, had been dried off a good many weeks previously.

The free use of tuberculin and the results obtained in various countries are every day proving that tuberculosis in cattle is rarely found to be hereditary, for it has been proven beyond dispute that calves of diseased cows are in 99 per cent. of cases healthy when born, and do not inherit the disease. If they are removed at once and fed on healthy milk and prevented from living with the diseased mother, thereby prevented from being infected by inhaling or ingesting the disease germs, they will grow up to be healthy cattle. This system, first introduced by Professor Bang, of Copenhagen, of raising healthy calves from diseased parents, has long been adopted with great success in different continental countries, more especially Denmark.

In consideration of these facts, and knowing full well how dairy farmers in this colony like to see confirmatory evidence brought forward as a result of local observations, I arranged that all the seven cows (which were in calf), unless exhibiting any outward dangerous symptoms of tuberculosis, should be completely isolated in a separate paddock from the rest of the herd, and kept until they had calved, when the young calves would be immediately removed to another part of the island and the mothers killed. On the morning before leaving the island I made a careful inspection of the seven isolated tubercular animals. One cow, a fine vigorous-looking animal, was noticed to be salivating somewhat freely, and thick mucous running from the nose, which, on microscopical examination, was found to contain an abundance of tubercle bacilli, whereupon it was decided without any hesitation to have this animal killed. On *post-mortem* examination, it was ascertained that there were several large tubercular nodules deeply seated in the dorsal parts of both lungs, while one large caseating patch was ulcerating into one of the bronchial tubes. There were no tubercles discernible on the outer surface of the lungs, nor on the lining of the ribs and diaphragm. The bronchial, pharyngeal, and

mediastinal glands were all more or less affected, while the mesenteric lymphatic glands were distinctly caseous. The liver, spleen, kidneys, and mammary glands were apparently healthy. Mr. Bowden has kindly promised to make careful daily observations on the remaining six cows, and inform me immediately any serious symptoms are manifest.

It has been pointed out by persons who have little faith in the tuberculin test that the application of the test to healthy milch cows very materially affects their milk for several days after the tuberculin is injected. On the present occasion careful records of the weights of milk from each of the 20 milking cows were kept night and morning for three days before, during, and three days after the test. (*See* Appendix D.) It will be noticed that there is scarcely any appreciable diminution in the quantities of milk of any one of the animals.

It would have been specially interesting to have estimated the percentage of butter fats from each cow, but unfortunately that much-needed appliance, the Babcock milk-tester, does not find a position among the dairying utensils at St. Helena. It is to be hoped, however, that it will not be long absent, for it is a well-established fact that the yield of milk is in no way proportionate to the yield of butter fats.

Colour in Relation to Disease.

There is a widespread opinion among stockowners that disease, especially tuberculosis, exists to a greater extent among white or light-coloured animals than among the dark-roan, red, or black cattle. Mr. R. Thornton, of Tower Hill, who has kept very careful records for a number of years, states that from his somewhat extended experience he finds white or light-coloured cattle are more susceptible to disease than other cattle of dark colour. The results of the tuberculin test among the St. Helena cattle somewhat confirm the correctness of these statements, for five of the seven cows which were found tuberculous were obviously light-coloured animals.

Notes on the Bulls.

It is particularly interesting to know that none of the seven bulls reacted to the test, also that previously no bulls have at any time shown symptoms of tuberculosis. The only reasonable explanation I can give as to the absence of this disease among the bulls is—(1) all calves are taken away from their mothers immediately after birth, and kept in yards and pens specially set aside for the purpose; (2) the bulls are never allowed to be fed in the same stalls as the cows; and (3) all cows are taken to the bull, and after being served are immediately removed, thereby reducing the risk of infection to a minimum.

Doubtful Reactions to the Test.

The two-year-old heifer Hessie and the yearling bull Young Randwick each gave a fairly high temperature the day after injecting the tuberculin. In Hessie's case it was ascertained that she had received an injury to the right shoulder from the horn of another animal on the night previous, causing her to remain feverish all the following day; while Young Randwick had received a superabundance of fresh green feed, which would be an almost certain factor in raising an animal's temperature. However, until both of these animals are tested again under more favourable circumstances they will be considered as doubtful cases.

Several of the very young calves after injection gave fluctuating high temperatures, but this was caused more or less by excitement.

List of Healthy Cows and Heifers from Diseased (Tubercular) Mothers.

Healthy.	Age.	Tubercular.	Age.
Ladybird	3	Out of Snowdrop	6
Jenny...	1	,, ,, ...	6
Fanny	2	,, Diana	7
Grace...	6	,, Annie	9
Dinah IV.	1	,, Dinah	9
Louisa	1	,, Maggie II.	13
Goldspray	5	,, Cassandria	Dead

The cow Cassandria is one of those previously referred to as having died three years ago from blackleg, and on *post-mortem* was found to be affected with generalised tuberculosis.

The yearling heifer Jet, which gave no reaction to the tuberculin test, is a daughter of Goldspray.

The following table, showing the number of calves and the milk obtained from each cow affected with tuberculosis, may be of interest to dairy farmers:—

Name of Cow.	Milk Yield.	Number of Calves.
Maggie II....	Very large	7
Annie	,, ...	6
Dinah	,, ...	5
Diana	,, ...	5
Bluebell	,, ...	5
Floss	Average	5
Snowdrop	,, ...	3

The only instance of very close relationship in regard to the disease tuberculosis is that of Floss and Snowdrop—mother and daughter respectively. In this particular case it is highly probable that they both contracted the disease from some common source, or one did, which afterwards became the source of infection for the other; for it may be mentioned that these two animals have been constant companions for the last four years, always living, feeding, and drinking together, and wherever possible keeping together in adjoining stalls during the milking operations.

Recommendations.

1. Under the present system at St. Helena, the cows are allowed to go into any stall they please. This is a very grave error, for it is of the utmost importance that cattle should be taught to always go into their own respective stalls which are specially allotted to them; by so doing, should any one of the present healthy animals become infected with tuberculosis, the infection will to a very great extent be restricted to the animal in its own particular stall.

2. Cattle, as far as possible, should be prevented from licking one another, and from eating out of none other than their own particular manger.

3. All suspected animals should be isolated, and should neither eat nor drink out of a common manger or drinking trough; nor should any feed they leave be given to other cattle. Old cows, and those having a husky cough, wheezy breathing, nasal discharge, enlarged glands under the skin, diseased udder or joints, unthriftiness in general, narrow chest, light barrel, long legs, pot bellies, &c., are most open to suspicion, and should be tested without delay by means of tuberculin.

4. No new animals, whether bulls, cows, or calves, should be admitted, even if from the most unsuspected herds, unless they have just been examined and tested with tuberculin, and passed by an officer who has been instructed by this Institute.

5. Rigid official inspection and application of the tuberculin test on every animal in the herd should be carried out at least every six months.

6. All calves should be reared on milk of guaranteed healthy cows; otherwise if the cows from which the milk is obtained are in the slightest degree suspected the milk should be scalded. The national system in Denmark is to feed all dairy calves on sterilised milk, so as to remove all possible risk of inducing the disease by ingestion.

7. Considering that the highest authorities on tuberculosis are of opinion that curative treatment is of little or no avail whatever, it remains that the very strictest measures be taken to prevent its spread to the remaining healthy animals; for we must regard the stalls which have been used for the infected animals as contaminated with tubercular material.

8. Careful disinfection, under supervision, of all the stalls and mangers and sheds used as cattle shelters. The best disinfectant for woodwork is one in 1,000 watery solution of bichloride of mercury. It should be prepared and kept in an earthenware vessel, and applied hot with a small woollen mop. Every part of the woodwork of the interior should be thoroughly washed, especially the wooden partitions, mangers, hay-racks, &c. After an interval of a few days, the disinfecting process should be repeated, and then whitewash all the inside of the buildings. The whitewash should not be made too thick, and should contain one pound of chloride of lime to every five gallons of water.

9. No consumptive person should be allowed to work amongst the cattle or prepare their food.

Conclusions.

In my opinion, it is extremely injudicious to breed from very young or very old cows, or too frequently from the same animal, more especially if, in the latter case, the animal is a heavy milk-yielder. The nourishment which should restore the maternal vigour is diverted to the development of the fœtal calf and to the making of milk. If used for breeding too young, the mother's growth is stinted, and the offspring is apt to be weak and puny; if bred too late, the constitution suffers from the strain. All such animals are probably more susceptible than if bred with more care.

A most important fact, worthy of the most crucial consideration by every dairy-farmer, is that the modern dairy cow is a highly artificial animal. She can only be compared to a machine for the conversion of raw material—fodder—into the finished product, milk. A skilful and intelligent engineer only works his machine to the full extent of safe production; and why should not the dairy cow be similarly handled, and an undiminished strength of constitution made the measure of her production? During my travels in the various districts of Queensland, I occasionally came across the better types of modern dairy cow, which are striking examples of ability, energy, and intelligence on lines of breeding, feeding, and milk yield, and which are by no means to be abandoned; but I specially argue for a due regard for the danger which attends high production, for healthy surroundings and vigorous ancestry, and last, but not least, for a watchful and intelligent care to weed out and keep out disease.

From many years' close scientific observation, I feel confident in saying that the valuable qualities of our dairy cows may thus be preserved and transmitted, uncontaminated, to future generations. In order to accomplish all this, it will be absolutely necessary to make periodical, systematic, and careful applications of the tuberculin test.

Brief Description on the Use of Tuberculin.

The injection of tuberculin in recognised standard quantities is always innocuous; performed on milking cows, it in no way affects either the quantity or quality of the milk produced, and it in no way interferes with gestation, even in animals about to calve. The usual practice in applying tuberculin as a means of diagnosing tuberculosis in cattle is, first of all, to determine the normal temperature of the animal, which is done by the use of the clinical thermometer. For ordinary purposes, tuberculin is employed diluted to the extent of one-tenth in carbolised water—five per 1,000. The best plan is to inject at one time beneath the skin behind the shoulder three to four cubic centimetres of the dilution (three cubic centimetres for cows of medium size, 3½ for large cows, and four for bulls and high-class animals). The temperature of the animal must be taken before the injection, which, in general practice, it is usually desirable to make about six p.m. The temperature of the suspected animal is taken next morning at six o'clock, then at nine a.m., 12 noon, three p.m., and the last one at six p.m. The diagnostic reaction is measured by the difference between the initial normal temperature, which is about 101·5 degrees Fahr. and the highest temperature recorded after injection. If this difference exceeds 1·5 degrees Cent., equal to 2·7 degrees Fahr., it may be affirmed that the animal is tuberculous. It may happen that the animal at the time of the proposed injection is feverish. This is caused often enough by hot weather, excitement, or by some passing irregularity of the digestive functions, and other physiological changes. It is better in such cases to defer the operation. It is important also to remember that in very tuberculous animals, those especially which are phthisical in the proper sense of the word, the injection of tuberculin may produce no rise of temperature whatsoever; but there is no difficulty in these cases, as the clinical diagnosis is always very easy.

St. Helena, 2nd September, 1898.

Milking Cows Tested with Tuberculin.

Name.	Colour.	Breed.	Age.	Before Injection.	After Injection.				
				2 p.m.	6 p.m.	6 a.m.	9 a.m.	12 n.	3 p.m.	6 p.m.
Polly	B & W ...	Ayr.	3 yrs.	102·6	102·4	101·5	101·9	101·9	102·4	103·
Ruby	Red... ...	,,	4 ,,	102·	102·	101·	101·6	101·4	101·8	102·
Robina	D R... ...	Illaw.	7 ,,	102·9	102·9	101·6	101·6	101·9	102·2	101·
Grace	R & W ...	Ayr.	6 ,,	102·1	101·9	101·3	100·8	101·2	101·7	101·5
Duchess Pride ...	W & R ...	,,	9 ,,	101·8	102·8	101·7	101·6	101·8	102·3	102·2
Lady Violet ...	W R Sp. ...	,,	6 ,,	102·2	102·2	101·9	101·9	101·8	102·5	102·9
Lily	Red... ...	,,	6 ,,	102·8	102·2	101·9	101·3	101·8	101·5	102·2
Gold Spray ...	Red, R N ...	Illaw.	5 ,,	102·2	102·4	101·8	101·7	101·8	102·7	102·6
Nellie	R & W ...	Ayr.	4 ,,	101·7	102·2	101·6	101·3	101·4	101·5	102·2
Bella	W & R ...	,,	3 ,,	102·6	102·8	101·8	102·1	101·9	102·5	102·2
Annie	W & R ...	,,	9 ,,	101·9	101·8	104·4	105·9	105·	105·1	104·9
Primrose ...	R & W ...	,,	10 ,,	102·3	102·1	101·4	100·9	101·3	102·	102·2
Lady Tempest...	R & W ...	Illaw.	5 ,,	102·	102·5	101·2	101·7	101·2	102·1	101·7
Snowdrop ...	W & R face	Ayr.	6 ,,	102·1	102·	105·9	106·4	105·4	103·5	102·6
Olive	W & R ...	,,	3 ,,	103·3	103·	102·1	102·1	102·2	102·8	102·8
Violet Pride ...	R & W ...	,,	9 ,,	102·	102·1	101·4	101·6	102·1	103·5	103·8
Lotty	R & W ...	,,	4 ,,	102·2	102·	101·6	101·7	101·9	101·4	102·
Edith Pride ...	R & W ...	,,	6 ,,	102·4	102·6	101·8	101·6	102·3	102·8	103·
Flora	W & R ...	,,	10 ,,	102·1	102·4	102·	101·7	101·7	102·4	102·4
Dewdrop ...	D	,,	4 ,,	101·1	101·6	101·6	101·8	102·1	101·7	101·8
Lady Mary II....	W & Y ...	,,	10 ,,	102·8	102·1	101·4	101·2	102·1	102·1	102·
Lady Bird ...	R & W ...	,,	3 ,,	102·1	102·5	101·4	101·8	102·3	102·9	102·5

Dry Cows Tested with Tuberculin.

Name.	Colour.	Breed.	Age.	Before Injection.		After Injection.				
				2 p.m.	6 p.m.	6 a.m.	9 a.m.	12 n.	3 p.m.	6 p.m.
Floss	W & R ...	Ayr.	9 yrs.	101·4	104·1	105·4	106·3	106·2	106·4	106·
Countess ...	R & W ...	,,	9 ,,	102·5	104·	103.8	102·8	103·1	102 9	103·1
Dinah	D R & W ...	,,	9 ,,	102·6	102·6	103·5	104·2	104·7	106·5	105·3
Blue Bell ...	Y R & W ...	,,	9 ,,	102·9	102·2	105·8	105·4	105·4	105·6	105·3
Maggie II. ...	Red	S'horn	13 ,,	102·7	103·1	105·4	106·3	105·2	104·2	103·2
Lady Fancy ...	Y & W ...	Ayr.	10 ,,	102·5	103·	101·4	101·	101·2	101·7	102·1
Dora	White ...	Illaw.	7 ,,	102·6	104·8	101·4	101.1	102·2	10·14	102·5
Helaine... ...	Roan ...	,,	7 ,,	102·	103·6	103.7	105·2	104·2	103·	103.
Queenie... ...	Blue Roan...	S'horn	5 ,,	102.3	101·9	101·2	101·1	101·5	101·7	104·1
Victoria... ...	W & R ...	Ayr.	20 ,,	101.7	102·3	101·2	101·3	101·6	101·9	102·5
Diana	L & R ...	Illaw.	7 ,,	102·	103·6	103·7	105·2	104·5	103·7	103·
Heifers Two Years Old.										
My Girl... ...	R & W ...	Ayr.	2 yrs.	101·8	101·8	101·2	101.6	102·1	101·2	102·1
Hessie	Red	Illaw.	...	...	...	102·5	105·1	105·1	105·1	104·	103·6
Criss	Red S ...	S'horn	...	...	...	102·1	101·1	101·1	101 1	101·2	102·1
Coral	Red	,,	...	...	...	102·2	102·	101·1	101·1	101·7	101·8
Fannie	Red	,,	...	...	...	101·9	101·4	102·1	101·7	101·7	102·4
May Queen ...	W & R ...	Ayr.	...	...	...	102·8	102·3	101·2	101·9	103·1	101·9
Lady Lough ...	Roan ...	,,	...	...	...	102·5	102·1	102·1	102·4	102·8	101.7
Bulls.										
Lionel	D R & W ...	Ayr.	4 yrs.	...	101·7	101·1	101·9	101·1	101·8	101·7
Young Randwick	W & R hd...	,,	...	...	101·8	104·3	103·9	103·8	103·6	103·1
Young Dunlop...	Dark R ...	,,	...	...	102·	105·5	103·1	103·	103·1	102·3
Monarch ...	W & Spots...	,,	...	...	103·1	103·9	102·1	102·5	103·6	102·1
Northern Chief	R & W ...	,,	...	...	104·	102·	102·9	102·1	103·6	102·1
Lord Loran ...	R & W ...	,,	...	...	104·	102·	102·2	102·7	103·7	102·1
Yearling Heifers Tested with Tuberculin.										
Princess ...	R & W ...	Ayr.	Yearlings.	...	102·4	101 4	101·7	102·1	102·	101·9
Kate	R & W ...	,,		...	101·8	101·	101·5	102·3	102·5	102·1
Louisa	W & R ...	,,		...	101·8	101·6	102·3	101·8	101·8	102·1
Lady Mary III.	W & R ...	,,		...	102·1	101·4	101·2	102·1	101·6	102·
Jet	Red	,,		106·3	102·7	101·9	101·8	101·8	102·4	102·7
Dianah IV. ...	D R & W ...	Illaw.		104·6	102·	103·6	102·9	102·1	102·5	103·6
Young Primrose	D R & W ...	Ayr.		104·3	103·9	102·	101·9	102·2	102·5	102·4
Winsome ...	D R & W ...	,,		103·3	102·6	102·1	102·6	102·3	102·	102·1
Gipsy	Strawberry...	Il.&A.		105·4	103·4	102·3	102·1	102·1	102·4	103·
Amy	Spotted ...	Ayr.		104·5	102·9	102·1	101·8	102·2	102·2	102·
Lady	Spotted ...	,,		104·5	103·1	102·3	102·8	102·1	102·1	103·
Stumpy	Spotted ...	,,		106·2	102·9	102·5	101·2	102·2	102·6	102·3
Sprightly ...	Y S	,,		104·9	102·	102·8	102·1	102·4	102·2	102·4
Lady Tozer ...	S R	,,		105·9	103·	102·4	102·8	103·	102·7	104·1
Beatrice... ...	Red	,,		...	101·7	101·1	101·2	102·5	103·3	101·5
Calves under Six Months.										
Rosebud ...	D R... ...	Ayr.	...	101·1	102·8	102·4	101·7	102·8	102·4	102·4
Jenny	W & R ...	,,	...	102·	102·9	101·7	101·6	103·6	101·6	103·2
Maud	W & R ...	,,	...	101·8	103·	101·5	101·1	102·4	103·1	102·1
Laura	W & R ...	,,	...	102·1	102·3	101·2	101·3	102·1	101·2	102·3
Lena	W & R ...	,,	...	103·1	102·6	101·6	102·5	103·2	102·7	102·5
Lavina	W & R ...	,,	...	101·8	102·1	102·	103·1	102·5	103·1	102·3

Appendix D.

Morning and Evening Returns of Milk from non-tuberculous cows taken three days before day of application, and three days after the tuberculin test was applied:—

Name.	August.						September.							
	29th.		30th.		31st.		1st.		2nd.		3rd.		4th.	
	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Ruby	5	3	5	3	6	2	5	3	5	3	5	5	3	3
Snowdrop	6	3	6	3	5	4	5	4	5	4	4	3	Tnd	out
Primrose	4	2	4	2	5	2	5	2	4	3	4	2	5	3
Lady Bird	6	2	6	2	6	2	6	3	5	3	5	3	6	3
Polly	6	2	6	2	6	3	6	3	6	3	6	3	6	3
Dewdrop	7	3	7	3	7	3	7	4	7	3	7	3	7	3
Violet	5	3	5	3	5	3	6	3	5	2	4	2	6	3
Robina	4	2	4	2	3	2	4	2	4	2	3	1	4	2
Lily	7	3	7	2	6	3	7	3	7	3	6	4	7	3
Lady Tempest ...	2	1	1	1	1	1	Turned out.							
Lottie	6	3	6	3	6	3	6	3	6	3	6	3	6	3
Grace	7	4	7	4	6	3	6	4	6	4	5	3	6	4
Duchess	11	7	11	7	11	7	11	7	12	7	12	6	12	7
Gold Spray ...	15	8	13	8	14	7	14	6	13	8	13	6	13	7
Nellie	12	10	13	10	12	10	15	8	13	9	14	8	15	8
Bella	15	9	15	9	14	10	15	8	14	11	15	10	10	9
Flora	15	7	15	7	15	7	14	7	14	8	14	7	14	7
Edith	20	10	20	11	19	10	18	12	18	11	18	11	21	10
Olive	15	8	14	8	15	8	14	9	14	8	13	8	14	8

FAKING OR FAIKING.

QUITE recently there has been considerable stir in the "Dog" world, as to whether or not faking is legal or not, and in a recent case heard in Edinburgh before Lord Stormouth-Darling, it was left a moot point, the judge being unable from the evidence to decide. Many said it was a well-known, easily-discerned manipulation of a dog's ear, and consequently apparent to the judges, who took no notice of it. Others again said that it was done for the purpose of deceiving the judges, and so the unfair winning of prizes. His lordship was of opinion that it was a matter for the Kennel Club to decide, and hardly one for a law court.

The word "faik" is an old Scotch word, and means to fold double or pleat, and through time has come to be applied to double dealings. Originally to "faik" a dog's ear was to bend or fold them, but now the term has become a general

one, and means to use abnormal means to obtain a natural appearance.

Exercise is the normal way of obtaining a healthy hue in a lady's face. Paint and powder is an abnormal way. The pulling out of the hair of a horse's fetlock is an abnormal way, of making him have fine legs, and to look well bred. The tattooing of a dog's nose is the same thing, and so on *ad infinitum*, but they are all classed as "fakes," or in other words, the practising of duplicity. It is unnecessary to enter into the merits of the recent case, but it would be well that the veterinary profession express its opinion on the general question.

Firstly, is the practice carried on for an honest purpose? In my opinion it is not. I am well aware that faking may be practised for no dishonest purpose, but these cases are not frequent.

When a man pays a large sum of money for an animal he pays it for two reasons, one is for the appearance of the animal and his probability of winning prizes, and the second and much the more important, is for his future value for stud purposes.

No sane man would pay a very high price for a dog that had a deformity which in all probability would be transmitted to its progeny, and consequently, in my opinion, the practice in any form whatever is dishonest, and not only that, it must be a source of danger to future breeders.

The question may be asked, What is honour, or an honourable understanding? And it may be argued that if a society or class of men agree to call a certain colour green, which is known to all other men as black, they have surely a right to do so. Quite true, so long as they confine this arrangement to the members of their own party, because these men are not likely to be deceived by the artificial or conventional designation. But this is hardly likely to be the object which the framers of the new code of language had in view. Why go to the trouble of arranging a new code, involving special effort on the part of the learner, if there is nothing to be gained thereby in the way of material advantage? Secrecy and mystery are to some minds extremely attractive for themselves alone, but there is generally a substantial object in view when men form themselves, by language or by ceremonies, into societies apart from the rest; it may be, and very often is, for mutual protection, but it is just as often for plunder. Especially is this the case when words are used with an inverted meaning, or actions are performed which bear, and

are intended to bear, two interpretations, one for the seller and the other for the buyer. A cheat, it has been said, is one who wants us to believe that two and two make five when he is paying us, but insists that they only make four when we are paying him. It comes to this: let any body of men call black green when talking to one another, if they like; but let us insist on their calling colours by their accepted names when they are talking to us.

It would really seem as if honour were a very variable quality. What is looked upon as quite an honourable proceeding by men of a certain class, and amongst themselves, is, however, not looked upon as honourable by men who do not belong to that community. And it behoves every one to therefore discover beforehand the customs and practises of a community before it enters into its affairs.

THE ABUSE OF TUBERCULIN.

Now that the world is stirring generally for the campaign against tuberculosis, a few words of warning may not be amiss.

To hark back for a moment to the time when preventive inoculation for pleuro-pneumonia was practised. It was no uncommon thing for a man to chop off half the tail of a cow, and then sell her as having been rendered immune by inoculation. Quite frequently a man would, with a pair of rowelling scissors, make a couple of cuts in the under side of the end of a cow's tail, and point to them triumphantly, declaring they were the signs of a successful inoculation!

Why, when hard pressed for pure lymph, dishonest inoculators have used the serum from any diseased lung, and afterwards declared that the so-called inoculated animals were immune!

Now as to tuberculin.

If a tubercular cow have injected at short intervals two or three doses of tuberculin, she will in all probability show no rise of temperature after the third injection. The dishonest man will prepare his cow for market, and agree, if he gets a higher price, to take her back if she reacts with tuberculin. What proof can a purchaser have that he has not been done when he buys a cow? Then again, should a man have a cow in his byre that is looking rather "off bloom," what is here to prevent him "fortifying" that cow with a few doses of tuberculin, so that if the inspector sees her, suspects her, and

proceeds to test her for tuberculosis, she will then be able to pass through the ordeal successfully?

I.—I would suggest that the preparation and sale of tuberculin should at once be taken charge of by the Board of Agriculture.

II.—That tuberculin should only be sold to recognised inoculators (veterinary surgeons to be specially appointed).

III.—That every dose of tuberculin be accounted for, and its results recorded.

IV.—That each animal inoculated should be branded with a mark durable for at least six months.

Cases.

A PIECE OF WIRE IN A COW'S LUNGS.

BY MR. STAFFORD, STUDENT, NEW VETERINARY COLLEGE.

THE subject was a roan, shorthorn dairy cow, five years old, carrying her third calf, and having been pregnant for about 171 days. She had always been in good health, a good milker, and kept in good condition. She was stall-fed in winter and pastured in summer.

On the 3rd December the cow was first noticed to be lame, and to have some difficulty in carrying her hind limbs forward, and she refused all food. The farmer gave her 8 ozs. of Epsom salts in oatmeal gruel, after which, in a few days, she seemed to recover, took her food, and commenced ruminating.

On the 11th of December the cow again stopped feeding, was dull, and would not drink. A pint of linseed oil was given her, but for three days there was no improvement, and her strength was kept up by giving her a quart of oatmeal gruel three times a day.

On Wednesday, 14th of December, I saw the animal, when she showed the following symptoms:—

The respirations were 54 to the minute, and abdominal. The pulse was full and oppressed, temperature 104°, and her head was drooping. On auscultation of the chest, a jerky, squeaking friction sound was heard, and after taking a drink of water, she had a short, dry, frightened cough.

The cow was treated for pneumonia, and there was improvement up to the 16th of December.

On Saturday, 17th of December, her respirations were 70, pulse 68, temperature, 107·5°. On auscultation through the shoulder a bubbling sound could be heard.

On Sunday, 18th of December, her respirations were 45, pulse 56, temperature 102·5°.

For the next two days the animal improved, and took sloppy bran mashes and a little hay.

On Wednesday, 21st of December, the cow aborted, and was also scoured, but took her food and seemed to be going on well.

On Thursday, 22nd of December, about 7 a.m., she took a bran mash and a little hay, but about 8.30 a.m. she was found dead, lying in a comfortable position, and to all appearances had had no struggle.

Post-mortem.

I made a *post-mortem* on Friday, 23rd of December. The abdominal contents were first removed. A hole was found in the rumen about six inches from where the œsophagus enters and to the left side. The little finger could be introduced into this hole.

The liver was enlarged, and had a waxy appearance.

On the inferior third of the diaphragm, and to the left side, there was a yellow, caseated mass, which corresponded to the hole in the rumen. This spot measured 1½ by ½ inch. The hole in the rumen was flanged, and attached to the diaphragm by this flanged ring.

The off fore-limb was next removed and the thoracic cavity opened. The pleura of the right lung and the pleura of the chest wall were attached. It was difficult to tear the lung away from the wall. About three-quarters of this lung had a marbled appearance, and seemed a little congested, but the cow had laid for twenty-four hours on the right side.

The left lung was also attached to the chest wall. At the posterior and inferior part of this lung there was a cavity, bounded by the lung and diaphragm.

The lung substance which bounded this cavity was hard and fibrous. When the cavity was opened, about a gallon of a red-brown fluid flowed out, which had a fœtid odour. The yellow spot on the diaphragm corresponded to this cavity. A piece of wire, about three inches long and one-sixteenth of an inch thick, was found in this cavity. This wire was twisted, and looked as if it had been a piece of wire netting, such as is used for fencing poultry-yards.

Out of this cavity several channels led into the substance of the lungs, and were filled with yellow, caseated matter.

This lung, when cut transversely, had a mottled appearance. This was due to the yellow, caseated channels which

ran through the lung. Some of these channels measured three inches in diameter. The whole of this lung was filled with channels containing yellow, caseated matter; but an area about four inches square, on the superior part of the lung, was congested, and had a marbled appearance.

CASE OF ACTINOMYCOSIS IN THE COW'S UDDER.

BY DR. A. MAXWELL WILLIAMSON, SANITARY INSPECTOR, EDINBURGH.

ACTINOMYCOSIS in the cow's udder is a condition at once so interesting and of such rarity as to justify a record of a case that has just come under my notice. On visiting a byre in this city along with Mr. Young, veterinary surgeon, our attention was arrested by one of the cows whose udder appeared to present an abnormal condition. A careful examination revealed the presence of several hard masses, varying in size between a walnut and hen's egg. Of these, six or eight could be distinctly defined, some of them comparatively superficial, while others were deeply seated in the body of the gland. The cow, which was an old one, was in very fair condition, and its temperature, on being taken, was found to register 103 degrees. First impressions were undoubtedly in favour of the condition being one of tuberculous udder, and a sample of milk was at once taken for microscopical examination, the dairyman meantime being cautioned against mixing any of it with his general supply. No bacilli were revealed by the microscope, but on the following day it was considered advisable to order the cow's removal, acting under the powers contained in our local Act of 1891. After being slaughtered, I examined the carcase, which was in all respects in excellent condition. There was no trace of tubercle throughout, and none of the glands were infiltrated to the slightest extent. On cutting into the hard masses in the udder, each was found to contain a quantity of granulation tissue, which was studded with numerous nodules, many of which were of a yellowish colour and several of a calcareous nature. Each nodule was considerably larger than would be seen in a case of miliary tubercle. The diagnosis was at once clear, the size and character of the nodules, and the absence of infiltration of any of the other glands, together with the absence of tubercle bacillus from the milk, at once making the case a clear one. Sections of the tumour and cover gloss specimens of the contents of the nodules showed

very beautifully under the microscope the characteristic aggregation of the clubbed heads which are so aptly described as resembling the capitulum of a daisy. A little staining by the Gram method rendered this appearance extremely evident. An attempt was made by me to obtain a pure culture by growing on agar-agar, gelatine and potato media, but only on the latter was much success obtained.

Almost all authorities are agreed as to the rarity of this condition in the situation just described. As is well known, it is usually met with in the jaw-bone and tongue, being in these regions designated as "lumpy jaw" and "wooden" tongue. It is also, according to Bowhill, Wally, and others, found in the liver, nasal cavities, the larynx, the lungs, and vertebræ; but so far as the literature on the subject is concerned, I find very few recorded cases of it in the situation of the present one.

The chief points of interest in connection with the case are:—

1. The extreme rarity of the condition in the situation described.
2. Its marked resemblance during life to tubercle of the udder.
3. The possible source of infection; the cow having been confined to the byre for a year previously, no abrasion or crack being found in the superfices of the organ, and no other animal in the same premises having been similarly affected. — *The Sanitary Journal.*

Editorial.

ENGLISH AND FOREIGN VETERINARY JOURNALS.

ANYONE who has the opportunity of reading French, German, or Italian Journals relating to our profession, must be struck with the extraordinary zeal and enthusiasm displayed by our foreign brethren. Encouragement is given by the editors of such well-conducted magazines as the *Berliner Thierarztliche Wochenschrift*, or the *Deutsche Thier. Woch.*, to practitioners in the remotest and obscurest hamlets to send in reports of interesting cases that come under their notice. Veterinary surgeons in the German army who find anything interesting to report in the course of their military experiences, are sure

of a corner in one or other of the German journals. And so it is with the French. We have often translated for our readers reports by French veterinary officers regarding peculiar manifestations of disease that have come under their notice, as well as papers written by provincial practitioners on the same subjects. Every man who has anything to say that is worth hearing, finds an opportunity in France, Germany, Austria, Italy, and even Russia, of addressing a more or less extended audience, and, what is more to the point, every man who has anything of importance to say, says it; he communicates his discoveries to the great veterinary public; he recognises the duty of the individual to the society, he is inspired by a fine *esprit de corps*, and penetrated with the feeling that truth is a precious possession, and is rendered all the more valuable by its promulgation. This is the right way to look upon life and duty. Physiological and pathological laws are comparatively simple; they have been pretty well codified by able men, and may be learnt by the neophyte in a fairly short time if he has a good memory, and is content to trust to that alone. But in their application these laws are infinite, and we shall go on to the end of time without ever coming near the total of their manifestations. It is with them as with a pack of cards; the rules of whist are very simple, the possible combinations of 52 cards are scarcely conceivable. Or we might compare these manifestations of physiological laws with the decisions of law courts as contrasted with the relative simplicity of the statute-book. Yet these decisions are regarded by all lawyers as the true body or codex of laws; from them only can the true meaning of those abstractions called statutes be learnt; we have to rise from the concrete to the abstract, and by a wide process of induction arrive at principles from which again we may deduce possible applications.

Our object in all this is to encourage and induce veterinary practitioners in all parts of the British possessions to which the VETERINARY JOURNAL penetrates to send us notes of interesting cases that may come under their notice. Every veterinarian has an opportunity at some time—many of them have frequent opportunities—of communicating important information regarding disease in the lower animals, and we wish to receive such information at the earliest possible moment, in order to help towards the formation of a codex of veterinary pathology. And our busy fellow-practitioners do not need to trouble themselves about the literary form of their communications; the main thing is a plain statement of facts;

our literary staff will see to the form. We should like if our fellow-practitioners would take the same view of their duties and responsibilities that is taken by their fellows abroad ; if they would devote a few scraps of their leisure-time to the jotting down of important cases coming under their notice, and would forward these to us. We are precluded from holding out much hope of a pecuniary reward, but we trust that scientific zeal will overcome all such considerations, and induce our future contributors to believe that the welfare of the whole body implies the welfare of the individual.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A QUARTERLY meeting of council was held on Wednesday, the 25th January, at the College, Bloomsbury.

Mr. A. W. Mason, president, presided, and there were present—Major-General Sir Fk. Fitz Wygram, Veterinary-Colonal Duck, Professors Dewar, Edgar, McFadyean, Penberthy, Williams, Messrs. Absom, Barrett, Bower, Carter, Cope, Dollar, Elphick, Fraser, Hartley, Lawson, Locke, Mulvey, Simpson, Trigger, Wartnaby, Wragge, McGeorge Thatcher, Solicitor, and Mr. A. W. Hill, Secretary.

The minutes of the previous meeting were read and confirmed.

Steele Memorial.

The Steele memorial medal having been awarded to Dr. Fleming and Professor Williams, communications were received from those gentlemen regretting their inability to be present, owing to ill health, and on the motion of the PRESIDENT, it was decided to present them by post with a cover and letter.

State Aid.

The SECRETARY read a letter from the General Medical Council with reference to the letter of the college of October 18th, regarding public grants for disciplinary purposes, which stated that the council did not see their way to accede to the request contained in the letter.

The Excise and Distilled Water.

A letter was read from Mr. Singleton, of Ealing, informing the council that the excise officer of his district had informed him that it was illegal to prepare distilled water in his laboratory without taking out a licence for that purpose, at a fee of half-a-guinea, and he suggested that the council should approach the authorities at Somerset House, and endeavour to induce them to withdraw the restrictions at present imposed on veterinary surgeons, with regard to the preparation of such water. On the motion of Mr. TRIGGER, seconded by Mr. WRAGGE, the letter was referred to the Parliamentary Committee.

The Highland Agricultural Society's Diploma.

A letter of the solicitors was not read, the president stating that Mr. Thatcher was to meet the secretary of the Highland Society on Wednesday, and the matter would come up again. It was a question of discipline between the Highland Society's men and the members of the College, and the matter was practically left in the hands of Mr. Thatcher, who was going to Edinburgh on Wednesday to see the committee.

On the motion of Mr. FRASER, seconded by Mr. ABSON, it was agreed to take no further steps until Mr. Thatcher had reported.

Professor WILLIAMS pointed out that the Highland Society had no power to withdraw their certificate for any reason.

Mr. THATCHER (the solicitor) said that was the object of his visit—to see whether the society would join with the council in obtaining an amendment of the regulation, by applying to the Privy Council, or in such way as the legal advisers might consider best.

A letter was also received from Mr. J. McLauchlan Young, enclosing draft of a scheme for a certificate in public health for veterinary surgeons, and on the motion of Mr. TRIGGER, seconded by Mr. WARTNABY, the matter was referred to the Examination Committee.

Finance Committee.

Mr. TRIGGER read the report of the Finance Committee, which showed that the present liabilities amounted to £808, which the committee recommended to be discharged. The committee recommended to the council that the solicitors' charges for taking over the Walley Memorial Fund should be deducted from the fund, and the money of the fund invested in consols.

On the motion of Mr. TRIGGER, seconded by Mr. LAWSON, the report was adopted.

Registration Committee.

MR. SIMPSON read the report of the Registration Committee, which stated that the committee had considered the application of a member for his name to be removed from the register, on the ground that his diploma of the Highland Agricultural Society would give him all the qualifications he wanted and leave him free from restrictions. The committee considered that the immunity from discipline practically conferred by the diplomas of the society might be used as an injury to the public and to the profession, and they had initiated steps for a conference with a committee from the society, with a view to seeing whether something could not be done in the matter. The committee reported that they had considered the application of Mr. A. V. Field for restoration of his name to the register, and recommended such restoration on the usual terms. The committee also recommended prosecutions in certain cases, and referred a large number of cases to the solicitor for his consideration. With regard to cases against members for advertising, undertakings had been received in the majority of instances.

Mr. SIMPSON moved the adoption of the report.

Mr. ABSON seconded the motion.

Mr. TRIGGER thought that, in view of the correspondence that was going on at present in the *Field* and other papers, making grave charges against veterinary surgeons, it should go to the public at the earliest possible opportunity that the Registration Committee had summoned those gentlemen, and that any such cases would be investigated by the council.

Professor DEWAR said it was very little wonder the outside public were apt to form their own conclusions, as it was only six weeks ago since he saw in a

veterinary paper two veterinary surgeons advertising for assistants, and stating that it did not matter whether they were qualified or not.

The report was adopted and the seal of the council ordered to be affixed to the authority for the prosecutions.

Examination Committee.

Mr. MULVEY read the report of the Examination Committee, which was adopted.

Parliamentary Committee.

The SECRETARY read the report, which recommended that the draft of standing orders submitted by Mr. Dollar should be printed, and a copy sent to each member of the committee.

On the motion of Mr. MULVEY, seconded by Mr. ABSON, the report was adopted.

Court of Examiners.

The SECRETARY read the report of the Court of Examiners, from which it appeared that in England 14, and in Scotland 16, students had been admitted into the profession. He also read letters from the examiners and delegates stating that the examinations had been of a satisfactory character.

The PRESIDENT and Mr. HARTLEY, who had attended the examinations, also expressed their satisfaction with the manner in which they had been carried out.

Mr. MULVEY moved that the report should be referred to the Examination Committee for consideration and report at a subsequent meeting of the council.

Mr. HARTLEY seconded the motion.

Mr. WARTNABY pointed out that the examiners suggested that at future examinations two students should present themselves at the same time and get 15 minutes' examination with each examiner. He wanted to know whether it could be done without giving notice of motion to that effect.

The PRESIDENT said it could not.

Mr. WARTNABY said he therefore intended to move something to that effect.

The motion for referring the report to the Examination Committee was agreed to.

The SECRETARY also read the report of the Fellowship Examination, which showed that two candidates had obtained the Fellowship degree, Messrs. Dellagana and Tennant.

On the motion of Professor PENBERTHY, seconded by Mr. FRASER, the report was sent to the Examination Committee for consideration and report to the council.

Walley Memorial Fund.

The SOLICITOR read a synopsis of the Trust, which showed that the amount of the fund was £309. The Trusts were briefly these: The annual income is to be given every year to the successful students at a special examination by the Royal College of Veterinary Surgeons. The examination is open to all students of all schools now or hereafter affiliated, subsequent to the immediately preceding October, who have passed Class C four years' course, or the corresponding examination for the time being. The subjects are pathology, materia medica, and hygiene, and the examination is to take place simultaneously in London and Edinburgh, and in Dublin as soon

as a college is established there. There is power to the Royal College to make rules. The money may be invested in feus or feu annuals in Scotland, or freehold ground rents in England, or in statutory investments for the time being for trustees.

Replying to Professor Penberthy, Mr. ABSON said that in Consols the interest would reach £6 15s. a year.

Professor PENBERTHY said he should like to know what the council were accepting; whether they were going to accept something which would cost them a considerable amount, and how much it would cost, because the examination could not be carried out for less than £9.

Mr. FRASER proposed: "That the council accept the Walley Memorial Trust under the conditions that had been read, and that the president be empowered to affix the seal of the council to the deed.

Mr. CARTER seconded the motion.

Mr. DOLLAR asked whether the council fully realised that, in accepting the Trust, they were taking rather more responsibility on their shoulders than the remarks made would show. It appeared to him that, in accepting the trust, the R.C.V.S. would be morally, if not legally, bound to pay the expenses of the examinations, the form in which to hold the examinations, the delegates who attended the examinations, and the accessory expenses which could not, of course, be avoided in connection with such an examination. He thought, perhaps, it was worth while to point out that to the meeting, in order that there might be no question hereafter as to the responsibility which the council took on itself. He did not for one moment offer any opposition to the motion.

Professor DEWAR said, it was thought in Scotland, considering the purpose for which the fund had been instituted, that there would not be any very great expense in conducting the examinations. The examiners would simply have to set the questions and submit them to the various centres, and have them returned to them. He had no doubt that a member of the college would be found at each centre to supervise the examinations. For his own part, and speaking for his fellow principals, they would be pleased to afford accomodation for the candidates in their respective colleges.

Mr. BARRETT thought that difficulties need not be anticipated. He agreed with Professor Dewar that there were men to be found who would take care of the examination, and examine the men from their own fireside. He thought the council ought to feel that the members had more generosity than to talk of taking a fee for doing a work so small as that would be. He thought the members ought to do their utmost to further the object of the Fund, and keep the matter under their own control.

The resolution was carried unanimously; and, on the motion of Professor DEWAR, seconded by Mr. LAWSON, the matter was referred to the Examination Committee, to arrange for the conduct of the examination.

Mr. BARRETT asked who was to pay the expenses of the deed.

Mr. THATCHER (solicitor): I shall be glad to say this, that I shall be perfectly willing and pleased to make that my contribution to the fund.

Company Law Amendment Act.

Mr. SIMPSON read a long report of the delegates appointed to represent the college on the joint committee of the various medical bodies for the purpose of calling attention to the anomalies of existing company law as affecting such bodies. The report was signed by Mr. Simpson and Mr. Thatcher, and Mr. SIMPSON moved its reference to the Parliamentary Committee with power to act.

Mr. ABSON seconded the motion, which was agreed to.

Notice of Motion.

Professor McFADYEAN gave notice to move in due course:—

That at the quarterly meeting, held in July in each year, the council shall fix the dates of the membership examinations to be held during the following December, May, and July, and the dates of the quarterly meetings of council to be held during the following October, January, April, and July.

Professional Fees.

On the agenda there was a notice of motion by Mr. Dollar, but the president ruled that the subject did not require notice, and could be brought on at that meeting.

Mr. DOLLAR therefore moved the following proposition:—

That a committee be appointed to consider the question of professional fees for services rendered by a member of the R.C.V.S., and, if considered practicable and expedient, to draw up a scale of fees for the guidance of the profession.

He said: I do not think that it is necessary for me to dwell at any great length on the desirability of some means of accord between the various members of the profession in regard to the fees that they charge for special services. Starting with the hypothetical position in which we are all placed by the bonds and understandings into which we enter as members of the profession, that we shall not claim, any one before the other, any special knowledge or any special skill. Bearing in mind, in fact, the convention by which we are supposed all to be equal one to the other, I do no think that any theoretical defence of the desirability of rendering uniform the fees charged for particular services is requisite. At the same time I recognise that that hypothetical position is not a practical position, and that in different districts in the country as opposed to towns, and in different districts of the towns themselves, differences in fees will inevitably result. The reason I bring this motion before you is that, unfortunately these differences in fees are used by other persons and other bodies than the members of our own profession for the purpose of unduly lowering the remuneration which we may claim, and of rendering our sphere as practitioners narrower and narrower. There are cases which I daresay come before you all at pretty frequent intervals, those of small rural bodies and agricultural bodies who have need for the services of a veterinary surgeon. The usual process in appointing a veterinary surgeon is to put the post up for competition, and the fees consequently offered are so exceedingly low that without some accessory means of income it is impossible for a member of the profession to decently subsist. Unfortunately there are in the profession, as in all other professions, needy members, and some of these gentlemen, from necessity—their position is perhaps perfectly excusable—feel themselves driven to accept such a post. The consequence is, that other bodies find that this system is attended with a saving to their ratepayers, and they accordingly adopt it. The fees are sensibly lowered, and very grave injury results by that to the practitioner, and to the body which he represents, because, unfortunately, with these low salaries, it is an impossibility for a practitioner himself to render proper services, and he brings odium upon his profession, while, at the same time, by comparison with other members of his profession practising in town, the fees of independent members of the profession are lowered. I think, however, that were it possible to agree on some scale of fees within broad limits, it would also be of very great value to us in recovering our fees in courts of law. It would tend to counteract the efforts made by the legislature to lower the fees which we receive for certain well recognised services. I think, that in law courts where the legislature

only permits a very small fee indeed, it might be possible for us to fall back on the list of fees fixed by this college in justification of our higher rates. I do not suggest in asking for the appointment of this committee that it is possible to at once fix an absolute scale of fees—that is perfectly impracticable. I should allow considerable limits within which the scale of fees could be varied. But, I think, that were we to adopt what we consider would be a minimum scale, it would be of very great value to us in these instances I have named, and also to any practitioners who are apt to be tempted into the acceptance of totally inadequate fees. The point has been raised in the profession as a subject for discussion at various veterinary medical societies. I think the veterinary medical societies would loyally assist us in attempting to come to some decision, but unless the subject receives the approbation of the council, and unless some central authority consents to take it up with the intention of gathering a large store of information from all those persons who have the right to speak on the subject, and bring to a focus the various opinions, nothing will be done. I think, therefore, although I cannot even suggest that a final decision will be come to by such a committee, that the experiment is worth making, and with that idea in view I ask you to authorize the appointment of a committee such as I have suggested.

Professor McFADYEAN, although he by no means agreed with all Mr. Dollar had said, seconded the proposition, in order that the feeling of the council might be tested. He did not agree with Mr. Dollar with reference to the grievance of being paid an insufficient fee when giving expert evidence. He had always held the opinion that expert evidence was the property of the expert, who could sell it for whatever fee he liked. He believed that courts of law could compel members of learned professions to give evidence only relative to matters of fact, but experts were usually questioned with reference to what would come under the heading of opinions rather than fact, and it was those which people wanted to buy, and they could be sold for just what they were considered worth.

Mr. BARRETT failed to see how any benefit could accrue to the profession from the institution of a certain scale of fees, inasmuch as those who could command a higher fee might suffer from having that scale put upon them. He might correct his friend, Professor McFadyean, by saying that an expert who gave evidence in a court of law was called in reference to expert evidence only, and he was required, and might be compelled, to give an opinion in reference to the subject in which he had been trained.

Professor PENBERTHY desired to know what force the opinion of the council was going to have?

Major-General Sir Fk. FITZ WYGRAM, while giving Mr. Dollar every credit for endeavouring to assist the profession, could not see how his scheme was likely to be of any benefit.

Mr. COPE pointed out that the department with which he was connected spent money on a liberal scale, and that fact should be a good precedent to go on in making professional charges. His department was spending £20,000 in fees to the profession annually, at the rate of one guinea for each visit, and that was a good argument why some attempt should be made to obtain equally good fees for services rendered.

Professor EDGAR supported the appointment of the committee in order that some attempt might be made to deal with the question which was of material importance to everyone, and involved not only the veterinary profession but all other professions. He pointed out that the legal profession and the medical profession both had a scale of fees, and although he thought it was impossible to fix any scale, or unnecessary to fix any scale, in the upward direction, some reasonable fee might be fixed at which it might be considered respectable to attend. He mentioned the case of a member of the college

who undertook the attendance of five horses at a distance of two miles from his residence for 1s. 8d. a week. If that was not calculated to depreciate the profession in the eyes of the public, what was?

Mr. MULVEY asked whether in the event of a resolution of the kind being carried, the council had any power to enforce it.

The PRESIDENT thought it had not.

Mr. DOLLAR said it was quite evident that Mr. Mulvey was misleading the council. He had never made any such suggestion. He had expressly stipulated that he did not anticipate any such step would be taken, and he knew that the council had no such power.

Mr. SIMPSON said the same thing occurred to him. Suppose the committee were appointed and reported in favour of adopting such a scheme, had the council any power to enforce it. If they had no power to enforce it, what was the use of drawing up the rules for the guidance of the profession. He ventured to say that any man who was removed from the register for charging the public a low price for his services would appeal to the Privy Council, and it was hardly likely the Privy Council would uphold the decision of the council with regard to that man. Was it supposed that if he was awarded, as an ordinary member of the profession, half-a-guinea for some special service, his friends Professor McFadyean and Professor Penberthy were to be dragged down to his level and only charge the same fee? He also pointed out the great difficulties that would be met with in attempting to draw up such a scheme as Mr. Dollar had suggested.

Mr. DOLLAR, in replying, said the point which was principally made against the suggestion was that it would break down the fees of eminent practitioners who were now getting 10 guineas in consultation, and for the examination of horses, and so forth. He thought the best reply to that was to instance a learned Q.C., who, in spite of his printed scale of fees, received anything up to five times as much as that printed scale. Another point had been that in the event of the committee being appointed, and in the event of a proper form being drawn up, how was the demand for such charges to be enforced? He had never suggested that the council should draw up a cast-iron scale of fees and make every member of the profession abide by it. That was manifestly impossible, and was not intended. He had placed quite a number of safeguards in front of any such supposition, and all that he suggested was that a general agreement should be come to as to the lowest fee which a professional man ought, under certain circumstances, to accept, and that it should be left to the moral power of societies and of the council to enforce the scale. Such a scale would be of value as something to appeal to in case of disputes, either with clients, or with legal gentlemen in court, or any other cases which might arise. It would tend, not to lower the profession, but to level up from some of those absolutely absurd and utterly inadequate fees which were being received. He believed such a scale would influence very materially the income of those poorer brethren who were struggling to make a decent income and to make both ends meet.

On the resolution being put, it was lost.

Notices of Motion.

By Professor DEWAR:—

That bye-law 52 be altered, and as altered be as follows:—Students who enter the veterinary schools shall, prior to their first professional examination by the R.C.V.S., produce a certificate which would have entitled the holder to be registered as a medical student on the 30th June, 1896, and a certificate of having passed an examination equivalent to an examination the certificate of which would have been accepted then, shall be accepted until this bye-law is altered or rejected.

By Mr. ELPHICK:—

To alter bye-law 7, line 4, to erase the word "president," and to substitute the word "council" and to add the following words, "at the quarterly meeting held in July of each year;" and that the bye-law shall read as follows: "In addition to such meeting, four meetings at least of the council shall be holden during each year in the months of July, October, January, and April, and on such days and times in those months as the council shall appoint at the quarterly meeting held in July in each year.

By Mr. WARTNABY:—

To alter Examination C, Class 2, to read as follows:—"Materia medica, practical pharmacy, therapeutics, and toxicology—written, two hours; oral, 30 minutes. At the oral examination, two students shall present themselves at the same time and be examined 15 minutes by each examiner."

Mr. ELPHICK asked whether it was possible for the president not to call the next council meeting until the 26th April, as many notices of motion would have by that time matured.

The PRESIDENT said it was absolutely impossible.

This concluded the business of the ordinary meeting.

A SPECIAL MEETING.

The ordinary meeting of the council was followed by a special meeting for the consideration of certain notices of motion. The president, Mr. A. W. MASON, occupied the chair, and all the members present at the ordinary meeting, were present at the special meeting, with the addition of Mr. VILLAR.

The minutes of the last special meeting were confirmed.

Advertising.

The first motion stood in the name of Professor PENBERTHY, and was as follows:

That advertising by veterinary surgeons, or causing, or permitting other persons to advertise for them, whether by paid advertisement, or by editorial, or other notice in the public press; or distributing, or causing, or permitting to be distributed circulars, books, or cards relating to their professional attainments, or abilities, or charges; or in respect of medicines, and appliances prepared, or sold by them, amounts to conduct disgraceful in a professional respect, within the meaning of section six of the Veterinary Surgeon's Act, 1881.

Professor PENBERTHY, in moving this resolution, said, it had been drafted by the solicitor, and his proposing it was merely a formal matter. Certain matters had been inserted in order that the council might be better able to deal with individuals who evaded all its efforts to suppress a kind of advertising which it would be extremely difficult to suppress under Bye-law 113 as it now read.

Mr. FRASER seconded the motion. He stated that the Registration Committee had often felt very disappointed at the way members could escape them, in advertising in a manner, which was conduct disgraceful in a professional respect. There was one sentence in the resolution which he could not understand. It said, "by paid advertisement or by editorial." He could not see how it was going to be proved that the editorial remarks in a paper amounted to advertising. If an editor liked to pass any remarks on a veterinary surgeon, it was beyond the power of the council to control his action.

Mr. TRIGGER was entirely in accord with the resolution, if one or two words

were expunged. If an outbreak of disease took place among a herd of valuable cattle in the country, which naturally would be found to be a matter of interest in the district, the editor of the paper in commenting upon the subject might perhaps inform the public that, say, Professor Penberthy had been down into that part of the country making investigations. In his view, according to the bye-laws, Professor Penberthy would be undoubtedly advertising by editorial. The council could not control such matters. If the words, "by editorial or other notice in the public press" were expunged, he thought the motion would be carried.

Mr. THATCHER (solicitor) said that the words did admit of a wide meaning, and if he found the sense of the meeting was against them, he should ask Professor Penberthy's consent to them being deleted, but before that was done he should like the council to hear his reasons for asking for those words. It would be within the knowledge of every member of the Registration Committee that there had been a certain number of cases of what he considered the worst and most assiduous form of advertising: there were certain journals which had under the words "Veterinary Replies" or "Kennel Treatment," or similar headings, the names of gentlemen to whom people were referred, the amount of their fees, and generally a sort of commendation. Every now and then there was an editorial note, saying what a very nice man and good professional man that particular veterinary surgeon was. What other profession was there that dared to do anything of that sort? The veterinary profession at the present moment was the only profession in which such a thing as that could occur. It might be said that the veterinary surgeon probably knew nothing about it. Most of the council were men of the world, and they knew that those things did not get in without men knowing something about it. It would be noticed that the bye-law contained the word "permitting," and the reason he put that in was that it would be very difficult to prove that a man caused it to be done, but after it had occurred once or twice the permission would prove itself.

Professor PENBERTHY: I take it that every case will still be tried on its own merits?

Mr. THATCHER: Oh, certainly; on its own merits.

Mr. DOLLAR said if that was the case he failed to see why a special resolution should be passed. He was afraid that he did not accept the word "permitted" in the same sense as Mr. Thatcher appeared to desire that it should be accepted. There had been at least one case similar to that mentioned by Mr. Thatcher, and the council had been advised by him that they had no powers. Enquiries were made of the editor, who said that he was responsible for the statement appearing, and thereupon there was a deadlock. If under previous circumstances the council had no powers, and if all cases would continue to be tried on their merits, there would be no new power added by the passing of the bye-law. All the powers which the council had were comprised under the section in the charter which permitted the council to strike off the rolls a member of the profession convicted of conduct disgraceful to him in a professional respect. After all, the question would not be whether an editorial had appeared in a paper praising a certain gentlemen, or whether it had not: the question would be whether the gentlemen had been guilty of misconduct disgraceful to him in a professional respect. Consequently it would have to be proved that each individual had given his explicit consent to the appearance of the editorial, or had caused it to appear or had allowed it to appear. Mr. Thatcher shook his head. Did he suggest it was a matter of assent and not of consent?

Mr. THATCHER: No.

Mr. DOLLAR: It is of assent and consent?

Mr. THATCHER: That is what I want it to be.

Mr. DOLLAR said he would accept it, and merely point out that that assent would have to be proved, and if it could be proved the council would be in no way assisted by the bye-law. It seemed to him that the council were being led into some exceedingly dangerous legal proceedings, which would leave them in the position of having to prove what an editor of a paper had already expressly and explicitly disavowed.

Mr. WARTNABY agreed with Mr. Thatcher. He thought it was high time that something of the kind was brought forward. It would be of advantage in being a warning, and would tend to stop the practice.

Mr. SIMPSON, as chairman of the Registration Committee, asked the council to adopt the resolution. If the council desired the Registration Committee to do the work as it ought to be done, and desired it to protect the profession generally from sign-advertisements, they would support the proposition. He thought that the word "permitting" had been overlooked by some of those gentlemen who had spoken. The word made all the difference. The word "editorial" had struck Mr. Trigger, but there must be proof that a man was permitting the editorial and other notices. No one—no Registration Committee and no council—would attempt to deal with a man who had been favourably spoken of under the circumstances that Mr. Trigger had mentioned, and that was why Mr. Thatcher had said every case would be dealt with on its merits.

Professor EDGAR asked the solicitor whether "other notices" would include interviewing?

Mr. THATCHER said it would certainly include public interviewing.

Professor EDGAR instanced a case, which had occurred in a paper, in which a most eminent practitioner, under the pretence of giving his opinion, narrated a case which another man had diagnosed wrongly. Would it include such a case as that?

Mr. THATCHER: Yes.

Professor EDGAR said he therefore supported the motion, and asked Professor Penberthy to add two words—"notice boards"—so that such things might be included.

Mr. TRIGGER did not see that the resolution could be altered.

Professor EDGAR said he only wished to deal with that form of advertising which was most glaring and worse than advertising in papers.

Mr. TRIGGER said that after Mr. Thatcher's explanation of the word "editorial," he was quite prepared to vote for the resolution as it stood.

Mr. DOLLAR asked the solicitor what powers the council had to force any members of the profession to take proceedings against the editor of a paper who voluntarily, and of his own free will, repeatedly inserted laudatory remarks concerning that member of the profession?

Mr. THATCHER said they had none, but would do in that case what they did the other day with other advertisements. The gentleman showed that it was not done by any act of his, and the council accepted his disclaimer.

Professor PENBERTHY, in commending the resolution of the council, thought its educational effect would be very great. It would indicate to the profession just the lines on which the council were proceeding, and point out a very glaring, serious, and disgusting method of advertising, and he hoped it would have the effect of suppressing it.

The resolution was carried.

"Veterinary Officer of Health" Degree.

Professor W. O. WILLIAMS moved:—

> That powers be obtained by the council of the R.C.V.S. to grant an additional degree to members of the R.C.V.S., to be known as that of "Veterinary Officer of Health" degree; that this degree be granted to members of the R.C.V.S. only, and

after passing an examination in the following subjects:—The working of the various Acts of Parliament which refer to matters appertaining to veterinary hygiene; the recognition of contagious and infectious diseases of the lower animals, and particularly those transmissible to man; meat inspection, sanitation, chemical and microscopical examination of waters, soils, atmospheres, secretions, excretions, discharges, fluids, and solids of the body, also of plant, and other matters, which may purposely or inadvertently be introduced into the animal body.

He said: I have brought forward this motion because I think that the profession has for a long time desired to have some additional degree to M.R.C.V.S., which, as a matter of fact, simply means that one is qualified to practise the art and science of veterinary medicine and veterinary surgery. It does not indicate the subjects which the student has learnt while at college, and it does not give him any qualification for his knowledge. The general public look upon a veterinary surgeon simply as a horse, cow, and dog doctor, and not as one who is of value in preventive medicine. For many years it has been the endeavour of different individuals to obtain an additional degree. Some 30 years ago Edinburgh University agreed to grant a university qualification to veterinary surgeons, but on enquiry it was discovered that the university had no such power, and it lapsed. A number of veterinary surgeons since then have endeavoured to obtain an additional degree, and they have not been successful. It seems to me that there are a great number of offices which appertain to the veterinary profession which are not given to veterinary surgeons. I refer first of all to meat inspectorships. The general view of county councils and local authorities is that if they want a meat inspector they should grant the appointment to a retired butcher.

Mr. TRIGGER. This would mean a new charter. I don't know whether Professor Williams realises that.

Professor W. O. WILLIAMS. In all probability the college will require a new charter in connection with other matters, and I bring the motion forward in the hope that the council will agree with the principle. I have no expectation that the council will instruct the solicitor to apply for a charter solely for obtaining powers to grant this degree; but this may be included among the other things. On the continent the professor is taken much more notice of by the authorities, than the professor is taken notice of by the authorities at home. There are such things as State Veterinary Departments abroad, but there are no such things here. I may mention, that in connection with the Public Health (Scotland) Act, if it had not been for the efforts of this council, in all probability a veterinary surgeon would not have had any recognition whatever, and from what I learn in connection with Bills before Parliament at present, endeavours are being made to exclude the veterinary surgeon from a great number of duties that are really his. I anticipate that there will be a great amount of veterinary work to do in connection with tuberculosis in cattle. I know as a fact that many local authorities are proceeding at the present moment to take steps for the protection of the public from tuberculous animals. Some of the duties which really ought to be given to veterinary surgeons now are about to be given to medical officers of health. I ask the council to consider this motion of mine and refer it, perhaps, to a committee to see if it be possible to obtain any such power.

Mr. COPE: Do I understand that we have no powers to confer any degree of this description?

The PRESIDENT: Our solicitor informs me so.

Professor W. O. WILLIAMS: I am applying for the power.

Mr. COPE: I rise to second the motion. I am quite persuaded in my own mind that if some steps could be taken in this direction it would be of great advantage to the public, especially the agricultural public, and also to the

veterinary profession. You are aware of the fact that the profession at the present moment is less employed in connection with contagious diseases than they were formerly. Unfortunately, in one respect, we have eradicated most of the diseases, and that has given a tendency on the part of the local authorities to object to continue to employ members of the profession as inspectors. We are constantly endeavouring to try and insist on their keeping the inspection of their markets going in particular districts about the country, but their answer always is that there is no disease, and therefore why should they keep the inspector. Now, it seems to me that, as that part of our avocation is gone, it would be a very desirable thing, in all our interests, that we should pay attention, not so much to the living as to the dead animal, *i.e.*, carcases and the offal. There are large markets which have abbatoirs attached to them, more particularly in London, and the number of animals slaughtered is immense. There are also a large number of slaughterhouses in London and the large towns, and the inspection of offal is often of such a perfunctory character that I have been told that the livers and lungs of animals affected by parasitic diseases find their way into the butchers' shops. It seems to me that we should endeavour, if we possibly can, to take upon ourselves the duty which the medical officer at the present moment almost invariably monopolises. I venture to say that a medical officer is not a fitting man for this occupation. There are very few medical men who can distinguish the lungs of a pig from those of a sheep, and they certainly can hardly differentiate between any of the organs of the different classes of animals, as to what animal they have come from. They are not, as a body, competent to judge of the natures of the diseases affecting them. As Professor Williams states, there is a powerful movement on foot, for the purpose of obtaining powers for the inspection of cows in cow sheds, for determining the condition of the udders, and for deciding whether the milk should be used or not; and, in only a few instances does the veterinary surgeon appear at all. It has always been in favour of seeking powers from a medical officer of health, or other inspector, to examine the cows, and decide as to whether they are fit subjects for the milk to be sold from. There is a large field for the profession in this direction, and I should certainly advocate any means which could be taken to bring us to the front in this matter. But, above all, before anything is done, I am convinced that we should never attain any success unless the men pass an examination of an eminently practical nature. We must have men educated in handling beasts and who know the condition of the udder when they examine it. This duty should not be left to medical men, but to our own profession, and I consider there is a great field before us, more particularly in connection with the inspection, not so much of meat, as of offal.

Mr. WRAGGE: I quite agree with what has fallen from both the mover and seconder of the resolution, but it appears me that it would be impossible to do anything in this matter in this Council to-day. Therefore I beg to move that it be referred to the Parliamentary Committee.

Professor MCFADYEAN. I think we must all credit Professor Williams and Mr. Cope with the very best intentions, but I can hardly imagine anything that is calculated to do the veterinary profession more harm than the discussion which has already taken place. It all amounts to this, that the diploma which we at present grant, is not a guarantee that the veterinary surgeon is, at present, fitted to undertake veterinary duties, including the inspection of animals, whether alive or dead, and that the training on which the diploma has been granted is inadequate. I listened with amazement to Mr. Cope's desire that this new examination should be an eminently practical one, one that would fit a man to examine a cow's udders, and things of that sort. Does Mr. Cope mean to assert that our

examinations as at present conducted are not of that nature? I would invite the council to consider for one moment what would be the practical effect of this. Instances have been mentioned in which, at the present time, men are doing what we contend are veterinary duties. But is that because those who appointed them suppose that the ordinary holders of the membership diploma had not superior knowledge to the medical men who were appointed? Take for example the case in Edinburgh. The Edinburgh Corporation has, I believe appointed a medical man as sanitary inspector, and part of his duties, I am given to understand, include the inspection of live animals and dead meat. But will Professor Williams assure us that the Edinburgh Corporation would not have appointed this gentleman if there had been competing somebody with an additional fancy veterinary degree, calling himself a veterinary medical officer of health? I venture to assert that although there had been 10 such candidates, in this instance they would have appointed this medical man. Does Professor Williams want it to go out to the public that our present examinations are not a sufficient test of the student's knowledge of veterinary hygiene, and of the recognition of contagious and infectious diseases? I maintain that they are a sufficient test, and if anybody denies that they are, then they must be made so; that is to say, our membership diploma must be a certificate that the holder of it is entitled to undertake any veterinary office. What appears to me would be almost the immediate effect of this is that it would disqualify every candidate for appointments on the county councils and local authorities who did not possess the new degree. No doubt a knowledge of chemical and microscopical examination of water is not an unuseful thing, but the question is whether 10 years' experience in country practice is not of fully as much value as that to the man who has to inspect animals with reference to contagious diseases. There are many men, in my opinion, who would make the very best officers for administering the Contagious Diseases (Animals) Act, who would probably never be able to obtain this degree, and would therefore be disqualified. I have still another point to make, and that is, that a small profession such as ours does not need three degrees. We have already got a high degree in the fellowship degree, and if we institute a new degree it would most certainly kill the fellowship.

Professor PENBERTHY considered it was necessary to insist very strongly on the fact that the college used every means to insure the capacity of its graduates in the examination of offal.

Professor DEWAR hoped that the profession would assert itself rather better than it had been doing in the past. He was glad to say, that with regard to the new Public Health Bill in Scotland, although, as Professor McFadyean had said, a medical man had the superintendence of the dairies, he had no power to examine living animals, unless he was accompanied by a veterinary surgeon.

Mr. LOCKE said it was the same in Manchester.

Professor W. O. WILLIAMS, replying on the discussion, said: It has been stated that it is superfluous to apply for an additional degree, but medical men apply, and not only take out their medical qualifications, but their D.P.H."

[Some discussion ensued as to the request of Professor Williams, that a certain portion of his remarks should not be reported. Professor MCFADYEAN protesting against a member of Council making statements and asking not to have them recorded. The PRESIDENT pointed out that it had been done before, and he allowed it in the present case.]

On the resolution being put, it was lost, only three voting for it.

Elections to Council.

Mr. DOLLAR then moved—"That votes in election to council, shall be counted by a firm of accountants, or other similar person or persons, to be nominated by the council." He said: The first point I wish to direct the attention of the council to is, that the authority of this council depends on its reputation for impartiality, and that, if any suspicion attached to any action of the council, as opposed to the members of the profession, the authority of the council must certainly suffer. The custom of other bodies is directly opposed to our own. It has been our custom in the election to the council to have the votes counted by members of the profession. In the case of Parliamentary elections the votes are most carefullly counted by a staff of paid clerks whose action is supervised most carefully. The elections to school boards, municipal boards, and county councils, and all similar bodies are conducted in like manner. Any tampering with papers would certainly invalidate any such election, and would bring the very heaviest pains and penalties on the shoulders of those persons who were adjudged to have done any such thing. In connection with our own elections, I have already shown that we adopt an absolutely peculiar process. It may seem to you a light thing to say that our system of counting votes is an extraordinary one, and one that ought to be altered, but I may perhaps be able to bring the anomaly more clearly to your minds, and place the truth in more brilliant colours before you, if I give you an instance. Under the ruling which our solicitor gave some six months ago it was shown that there was no legal impediment to my nominating at the next election two, three, or 10 candidates, and, at the election which ensued, myself attending and counting the votes of those men I had nominated myself. Imagine for one moment what the feeling of the members of the profession must be, those gentlemen who may at the next election become candidates for seats at this honourable table, when they learn that there is actually no legal impediment to such events as that occurring. I have heard it said that this is a personal question with me, but I deny that it is such a question. My sole desire in bringing this motion before you is to remove what I consider is a monstrous anomaly in our bye-laws. If the members present look at the subject in the light in which I endeavour to view it, if they will consider the interests at stake, if they will consider their own honour, and if they will consider the first principles of fairness and justice, then I believe the motion will be carried.

There being no seconder the motion dropped.

Mr. DOLLAR then gave notice of his intention to move,—

> That no person who is nominated a candidate for election to council shall act as a scrutineer for the counting of votes at the next ensuing election of members of council.

On the motion of Mr. FRASER, seconded by Mr. SIMPSON, a vote of thanks was accorded to the president, and the council rose.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Continued from page* 32.)

THE VICTORIA BENEVOLENT FUND.

A letter was read from Mr. Barrett on the subject of the Victoria Veterinary Benevolent Fund, and speaking with reference to same he said: Although we have differences of opinion on some subjects I think we shall be in accord with reference to this matter. The object of the fund is to relieve distressed

veterinary surgeons and their families. You will be glad to hear that we have already received something like £700. The fund has already been called upon, and I have several cases now to deal with. One is a very sad case indeed. I have a letter here from a woman who is in absolute need. Her husband is in an asylum, and she herself is in receipt of parish relief. The management committee has resolved to allow her 20s. a month. I mention these facts so that you may see we are doing practical work in connection with the fund I appeal to you to aid this good cause. We are not in opposition to any other Society. I think the financial condition of this society is sound, and hope to be favoured with a liberal donation.

The CHAIRMAN: The disposal of funds is a matter for the council, but it is quite competent for this meeting to make a recommendation to the council.

On the motion of Mr. SAVOURNIN, seconded by Prof. MACQUEEN, it was then moved that this meeting recommends the council to make a donation, not exceeding fifty pounds (£50), to the funds of the Victoria Veterinary Fund." Carried *nem. con.*

The next item on the agenda was "to receive instruments, etc., from the Hon. Secretary," but as the boxes containing the most important instruments had been sent locked, without the keys, the matter was left over for the secretary to bring before the next meeting.

A paper on "Antiseptic Surgery" was read by Mr. FLOOK, a recently elected fellow of the society. On the motion of Mr. PORCH, the discussion on same, owing to the lateness of the hour, was postponed until the next meeting.

A vote of thanks to the chairman for presiding concluded the proceedings.

OPERATION WOUNDS AND A RESUME OF METHODS EMPLOYED IN THEIR TREATMENT.

BY MR. FLOOK, M.R.C.V.S.

IN veterinary and other writings the two words, aseptic and antiseptic, are frequently employed interchangeably, but had the asepticists coined a new word for their particular treatment some confusion might have been avoided.

Cadeac gives a very clear idea of the two methods in extremely few words. The antiseptic method, he says, is "antisepsis before and during;" the aseptic is "Antisepsis before, asepsis during." I may add to this latter definition asepsis *afterwards*, for to quote Dr. Watson Cheyne, reported *Lancet*, November 17th, 1894, speaking of rigid asepsis, he says: "Dressings do not contain an antiseptic—— .... acting simply as filters." This, however, is not a complete description, as the dressings act both as filters *and* absorbents.

To leave this for the present, it may not be out of place to give a brief *résume* of the progress made in the Listerian or antiseptic treatment of wounds.

To Lister is owing nearly all the credit of modern methods, for not only was he the first to introduce the treatment but at the present time he has had a last word, for his double cyanide of mercury and zinc absorbent gauze is, by many surgeons, thought to be the most satisfactory dressing now in use.

Lister, as is well known, owed his method directly to Pasteur, but, to quote Dr. Watson Cheyne again, "Lister's mind was prepared for his work by the researches he had been making into the nature of inflammation."

Pasteur's celebrated paper, however, entitled, "Spontaneous Generation," convinced Lister that the cause of putrefaction in a wound was due to living particles, and he believed then that these obtained entrance into the wound principally from the air (1865).

Carbolic acid was the first means that he employed to prevent this "putrefaction" (for in the early days of antiseptics it was thought that putrefaction

was that which chiefly required prevention). He used the carbolic acid in the pure state, it being at that time a crude preparation and insoluble in water, in fact Lister himself states that carbolic acid was a novelty when first used by him (*Lancet*, Sept. 19th, 1896). The first cases in which he employed this agent were those of compound fracture, and he did so with considerable success.

His next step was to use carbolic acid and oil, mixed with whiting, to form a putty, as dressing after operations; then, a purer preparation being discovered, he was able to mix it with water to form a lotion for the hands of the operator, etc., and for a dressing after operation he mixed it with lac plaster. Later, in place of this, he adopted the use of carbolic gauze, prepared much as at the present time.

The spray, as is well known, played an important part at this stage in his treatment of wounds; but with more enlightment as to micro-organisms and their methods of spreading, Lister realised that the spray was not necessary, for pyogenic organisms, except in hospitals, are not numerous in the air.

Various ærescopes are employed for estimating the amount of living organic impurity in the air: with one in use at King's College I saw practical evidence of the above statement, for a large quantity of air being experimented with, although numerous colonies of moulds were found on the plate culture, only one was obtained of a fission-fungus.

I gather from an address of Lister's (*Lancet*, 1896) that Metchnikoff's experiments with reference to phagocytosis convinced him that the organisms in the air could well be ignored. Now what has the antiseptic treatment done for surgery?

Before answering this question, it will be advisable, in the first place, to enquire into the nature of wounds.

Erichsen, quoting Weissmann, says that a wound is "a solution of continuity in any part of the body, suddenly made by anything that cuts or tears, with a division of skin." Wounds are classified as follows: Incised, lacerated, contused, punctured, and poisoned. A proper understanding of the method of making aseptic, and maintaining aseptic an incised wound, includes all the "general principles" of wound treatment.

Before Lister introduced his antiseptic method, wound treatment was of an entirely empirical character.

Erichsen gives the following methods as those chiefly followed in human surgery, but, though in so doing he states that antiseptics were not used, yet there is no doubt that antiseptics were employed before Listerian times, in the same way that drugs are used at the present, without there being a full understanding of their *modus operandi*. The methods alluded to are occlusion, open treatment, simple water dressing, cotton wool thickly applied with pressure.

The first named, viz., occlusion, was not satisfactory, for in many cases the occluding material was anything but aseptic, but it is a method strongly advocated by some at the present time, carried out aseptically, of course.

In the "open treatment" success sometimes followed—I mean healing by first intention, if the discharges were not too great to prevent their becoming dry.

The "water dressing," applied by means of lint, resulted in putrefaction of the discharges, if the dressings were not constantly changed.

With the "dry lint dressing" the results were sometimes very good, as they were also, and more particularly so, with the cotton wool (Guerin's treatment).

Not only the occlusive, but the other methods abeve named, are, some more some less, still in use, but in conjunction, of course, with antiseptic or aseptic treatment.

Putrefaction only has been hitherto mentioned in this paper as affecting a

wound or the discharges therefrom, but what has now at the present time to be feared is not putrefaction, but what was in earlier times thought to be quite a harmless process, viz., suppuration, that is if the pus happened to be of a nice creamy character, hence the term "laudable pus," but Koch and others have shown that this pus is due to the action of various pyogenic organisms, the chief of which are staphylococcus pyogenes, aurens and albus, which, according to Erichsen, are found in 70 per cent. of suppurating wounds and streptococcus pyogenes (16 per cent.). This latter is identical, or at least indistinguishable from the streptococcus of erysipelas. Staphylococcus and streptococci, he states, are to be found together in five per cent. of cases. Besides these we have staphylococcus pyogenes citrens (rare), micrococcus tetragoni in the lungs. bacillus pyogenes, fœtidns in foul-smelling abscesses near the anus, etc. The pneumo-bacillus of Friedlander, found in joints and elsewhere, usually associated with pneumonia. The bacillus of blue pus (bacillus pyocyaneus) only met with in dressings and discharges from open wounds. Last, but not least, are the streptococci of strangles, and discomyces found in scirrhous cord and shoulder tumonr.

The first two named, however, are those which most frequently obtain access to surgical wounds, chiefly from the surrounding skin, from the hands of the operator, and from instruments and other surgical appliances, therefore it follows that rigid antisepsis before operating is absolutely essential to obtain uniform success.

It has been shown that cultivations can be grown from a piece of epithelium after very careful antisepsis, as employed before operations, yet we are so far able to limit the number of organisms that Dr. Watson Cheyne states that "suppuration occurring in a wound made by the surgeon through previously unbroken skin, is the result of some oversight or error on his part," for, fortunately, there are agents in the wound itself which are able to cope with a mitigated dose of bacteria, viz., the phagocytes.

One is led here to mention the course of events which take place in the healing of an incised wound aseptically. After bleeding has completely ceased, and the edges of the wound evenly brought together, plasma is exuded from the vessels, and lymph is formed glazing the cut; this lymph is coagulated plasma.

According to Woodhead, there are few leucocytes during the first twelve hours; there presence is absolutely essential, however, at an early stage, for their first action is to assist in the coagulation of the plasma to form the lymph.

It is stated that three-fourths of these leucocytes are multinucleated, and Metchnikoff is of opinion that the division of the nucleus greatly facilitates the passage of the corpuscle through the nasal wall. These multinucleated cells, then, "considerably increased the day after the wound has been made" (Woodhead), proceed to attack any, in an operation wound we will surmise, few bacteria that may be present, and to remove them.

A long controversy has been waged in times past over this matter, especially in its bearing on the question of immunity and its causes. The humoralists asserted that the organisms were first destroyed by substances in the serum, and the phagocytists, with Metchnikoff for leader, maintained that the phagocytes themselves attacked living micro-organisms.

Metchnikoff, in support of the phagocytists, with enormous labour, isolated three phagocytes containing bacilli, and from these reared cultures.

To return. The leucocytes, having removed the invading organisms, are removed by larger cells derived from the connective tissues, and also is issued from the endothelial cells of the small venules and lymphatics, and the wound is bridged over by these.

This is an outline of the healing of an operation wound by first intention.

The chief danger to be feared in such wound is the entrance of the before-mentioned pyogenic organisms. The details of methods now adopted to keep them out will be dealt with later. Should they, however, gain access, and the phagocytes be unable to cope with them, death of the latter results, and pus is formed; the wound will then unite, not by "first intention," but by "granulation," and the process of healing will be greatly delayed, and other disadvantageous sequela ensue.

Especially in the human subject have the benefits of antiseptic surgery been shown. Dr. Watson Cheyne (*The Lancet*, 1894) states that in major operations, such as amputations, the mortality used to be from twenty-five per cent. to forty per cent or even more; and everyone knows that amputations were more frequently performed in old time than at present owing to the greater prevalence of spreading gangrene, or the fear of it.

Operations that surgeons did not dare even to attempt can now be performed without much risk. For example, no surgeon in former times would have thought of making an "exploratory incision" in abdominal troubles, as advocated by Lawson Tait, and, as examples of what can now be done, Dr. Cheyne says: "In the case of fracture of the patella, it is now the rule at the hospital with which I am connected in all cases to open up the part and unite the fragments in such away as to obtain bony union, and we had never had reason to regret such a procedure; on the contrary the patient's recover perfect use of their limbs in a way which could not otherwise be obtained." Of course results depend largely upon the cleverness of the surgeon, or in other words, his carefulness in attending to details; not only so, but some surgeons, it is a common saying, get a run of a particular class of case, even before they have acquired a name for the treatment of the particular malady.

With reference to the above-named operation for fractured patella, Erichsen does not advise the operative method, save in exceptional cases, owing to the risks of such procedure. In spite of all proof as to the benefits of rigid antisepsis it is looked upon by some practitioners as cumbersome and unnecessary, and I have heard men say that they used to get better results than they did now. One thing is quite certain, viz., that some animals have more resistant powers, *i.e.*, their phagocytes are more able to cope with foreign matter than that of others; secondly, the antiseptics employed often hinder the action of the phagocytes.

Speaking at the International Congress of Hygiene and Demography, Dr. Armand Ruffer (reported *Lancet*, August 22nd, 1891) said, "Any agents which, to any appreciable extent, prevent the emigration of wandering cells, must retard the healing of a wound." He found that all antiseptics as used in surgery at the present moment, when applied to a wound, hindered the emigration of leucocytes to the spot where the antiseptic is placed (negative chemotaxis). It is on this account that the rigid aseptists will not permit any antiseptic to come near an operation wound.

Here it is advisable to say something concerning antiseptics themselves. Antiseptics are agents which prevent bacteria or fission fungi from multiplying, and of those most in use in surgery, carbolic acid, creolin, and sublimate must be first named. The first and last named continue to be most used in human surgery in spite of some new antiseptic being brought out every week, apparently. Cadiot says, "Carbolic acid, sublimate, and zinc chloride are worth all the others."

I shall not here attempt to give a list of antiseptics in general use, but shall confine myself to one or two points.

Dr. Woodhead (*Journal of Comparative Pathology*, June, 1889) advised the use of biniodide of mercury solution in veterinary practice. Quoting Klein, he says that with sublimate distilled water should always be used—a

great disqualification in veterinary surgery—whereas biniodide can be employed without any disadvantage with ordinary water. He states further that the biniodide is far more powerful. (Cadiot says that it is stated to be thirty times stronger than sublimate). He (Dr. Woodhead) mentions numerous other disadvantages of sublimate, but that he speaks of, as to its coagulability with albumen, may not be one indeed, for Dr. Ruffer further stated at the congress that, "generally speaking, the chemical substances which combine readily with the salts and albuminous bodies of the blood, *e.g.*, carbolic acid and sublimate, do not repel leucocytes so energetically or for so long as those which do not readily combine, *e.g.*, analine, benzol, etc." The deduction is obvious though it may not be sound. The action of zinc chloride when mopped on to the surfaces of fresh wounds in the strength of forty grains to the ounce, is certainly to cause a thin coagulum, acting superficially, not deeply, and somewhat on "occlusion" lines.

One is led to believe that *in an operation wound*, an antiseptic which acts superficially, but powerfully, without repelling leucocytes, does all that need be expected of it. I said *in a wound*, for certainly, in an operation wound, the organisms cannot be very deeply situated, and if, at the same time, a thin coagulum be formed screening the tissues beneath without preventing union by first intention by any mechanical action, what matter? The coagulation of sublimate with albumen may not be to its disadvantage in operation wounds one might think; moreover, reasons will be given for not combining sublimate with salts or ammonium chloride. But to return to biniodide. Since reading Dr. Woodhead's paper I have always had by me a large bottle of the lotion, 1-500, and I have used it of this strength in washing, or rather rinsing the field of operation in dogs without causing any apparent irritation, and I have been satisfied with the results I have obtained when applying it to wounds (1-1000), but it *may* have disadvantages though I have never read of any, for in reading medical journals I have rarely seen it mentioned as used in the operations described. Biniodide does not cause coagulation of albumens, but it has yet to be shown, of course, that this is a *sine qua non* test for an antiseptic. There is, however, some evidence that iodides have a stimulating action on leucocytes.

An ordinary general meeting was held on Thursday night, 5th January, at the Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C. Mr. Sutcliffe Hurndall, the president, occupied the chair. There were present—Fellows, Messrs. Butters, Wragg, Singleton, Stanton, MacCormick, Macqueen, Major Phillips, Major J. A. Nunn; Messrs. Perryman, Payne, Manton, King, Porch, Nye, Samson, W. E. Taylor, Lieut.-Cols. Duck and Durrant, Harrison, Bell, Brown, Rowe, and W. S Mulvey, and two visitors.

The minutes of the previous meeting were, on the motion of Professor Macqueen, seconded by Major Phillips, taken as read.

Correspondence.

Letters and telegrams of regret at inability to attend were read from Mr. Wheatley (Reading), Mr. Villar, and Mr. Flook.

Letter from Professor M'Fadyean with respect to the deputation which had waited upon him, and confirming his communication of November 17th, in which he tendered his resignation.

Letter from Mr. Mahon with regard to instruments.

As arising out of the minutes, Mr. Wragg reported that, as instructed, the deputation had duly waited upon Professors Penberthy and McFadyean. The former expressed himself in similar terms to his letter of November 17th, but said he would like to be allowed time to further consider his decision.

Professor M'Fadyean, however, whilst deeply sensible of the advantages he was relinquishing in severing his connection with the society, could not see his way to alter his decision to resign. His resignation was accepted with much regret, as was also that of Mr. Henry Gray.

Elections and Nominations.

Vet.-Lieut. St. Clair Houston, who was nominated at the previous meeting, was unanimously elected a Fellow of the society.

Mr. E. L. Stroud and Vet.-Lieut.-Col. G. J. R. Rayment were nominated for election as Fellows of the Society.

Remnants of various instruments, viz., 2 microscopes, 1 damaged; set Farmer Miles's Hobbles; 4 broken microscope lamps, the property of the society, previously in the possession of the late hon. secretary, Mr. Mahon, were received from him, and, after some discussion, it was unanimously decided to sell same. Professor Macqueen undertook to dispose of them to the best advantage.

The CHAIRMAN: Before proceeding to the next business, I will ask Major Nunn to pass round a photo which he has, and which I believe will interest the members.

Major NUNN: I thought the photo referred to would prove of interest. It illustrates the application of the Röntgen rays. It appears that some children had been feeding a dog, weighing about 10 lbs., with sugar, and mischievously forced a tea-spoon down its throat. The animal was submitted to the Röntgen rays on the fluorescent screen. The animal was prepared for operation on the 21st October, and operated on on the following day. Gastrotomy was performed and the spoon removed. The animal was discharged from the hospital on the 26th of same month completely cured.

In the unavoidable absence of Mr. Flook, and Mr. Porch not being prepared to open the discussion, as he had not expected to be able to attend the meeting, the discussion on the paper by Mr. Flook on "Operation Wounds and a Resumé of Methods employed in their Treatment," read at the previous meeting, was postponed.

Professor MACQUEEN: I have been looking over these old diplomas which were received with the instruments, and although I cannot see anything in the rules with regard to same, I do not see why members should not be presented with one, or something similar, upon qualifying. I hope I am not out of order in mentioning the matter.

The CHAIRMAN: It is of course a question for the Council to consider.

Mr. WRAGG: When the Society was first formed I believe every member had one of these diplomas.

It was then proposed by Professor Macqueen, and seconded by Mr. McCormack, that "The attention of the Council be drawn to the existence of these diplomas, in order that the Council might consider the advisability of making further use of them." Carried.

BURNS AND SCALDS.

BY VETERINARY-MAJOR J. A. NUNN, A.V.D., C.I.E., D.S.O.

Gentlemen,—I am afraid the subject of this paper is not one of general interest such as falls within the observation of every day practice, but this very fact must be my apology for bringing such a matter before the notice of this Society, trusting that those members who have had much experience with such accidents will give us the benefit of their observations.

Under the heading "Burns and Scalds" I propose to deal with the effects and treatment of the action of heat to the animal body, whether by the

actual application of flame, a heated substance in a solid or fluid form, or of steam, these being considered by Baron Dupuytren, the eminent French surgeon as being true burns. There is, however, another class of injury in which heat plays a part, viz., the effects of electricity and lightning and chemical substances. These Dupuytren does not class as true burns, and deals with them separately.

A scald is the result of headed fluid or steam coming in contact with the body, and although at first sight it might be supposed that there would be a difference in the results of a fluid or vapour and that of a piece of heated metal or flame, there is practically none at all. The method in which heat comes in contact with the body is not to be considered, and in equine practice in England the most common is animals being confined in a burning building, where injuries inflicted are partly caused by the direct action of the flame, and partly by heat, without flame actually touching the body. In passing, I would remark that these cases are often concurrent with pulmonary complication, laryngitis and conjunctivitis, the result of smoke.

In South Africa I had experience of several bad cases of burns from grass fires sweeping down on animals that were tied up, both horses and oxen, in camp. In that country the ground is covered with long grass, which at the end of the summer becomes as dry as tinder, and readily takes fire, indeed on veldt farms it is usually burnt to allow of the new grass springing up with the rain. Stabling being scarce, animals are generally turned out to graze knee-haltered. The fire runs along in the grass with the breeze, and a very slight change in the wind will make it alter its direction. Animals being haltered are unable to get out of the way, and burns are not uncommon. If the grass is not very high, the effects are not severe, but I have seen some very severe injuries to the feet resulting in bad laminitis and casting of the hoofs.

I have three times had to treat patients from the effects of gunpowder explosions in India; two were bullocks and one a pony. All of them were caused by the carelessness of native drivers smoking while sitting in the carts in which such dangerous loads were being carried. The case of the pony was somewhat peculiar. The animal was drawing an eka, or two-wheeled gig, which was conveying the owner, several of his friends, and a quantity of native made fireworks to a feast. After the fashion of Orientals, the party were smoking and the load caught fire, the result being that the pyrotechnical display was premature on the roadside. The driver and passengers escaped with but trifling injuries, but the pony was badly burned. The animal was under treatment for a considerable period, but made a good recovery. What was remarkable was the permanent colouring or tattooing, of a bluish colour, that remained on the white skin of the perineum, scrotum, flank and sheath. This was not noticeable in the two bullocks above mentioned, and I can only account for it by the fact that in the first case the fireworks went off one after the other, driving the particles into the skin with considerable force, while in the second the gunpowder was loose in a box and went off with one explosion, the effects being chiefly upwards and not of sufficient force to drive the particles deep enough into the thick skin of the bullock to leave a permanent mark.

In the human being clothes catching fire is a fruitful cause of burns, but in our patients is not so, as during the summer months no clothes are worn and when they are in the winter they are of wollen material which is not inflammable. In fact, from some statistics that have recently been published, by far the largest proportion of deaths from burning clothing have been amongst women who use inflammable material in their clothes; scarcely any

from this particular cause being amongst men who wear cloth or flannel. The same would apply to our patients. If they have clothing at all it would be wool, hemp, or some noncombustible fabric. Gas explosions also account for a number of fatal cases in human beings, but I have never seen one in animals. As, however, most of my life has been passed in places where there is no gas, I have no experience on this point, but trust that some member of the Society will be able to give some information upon it.

I have seen bad burns from oil lamps, both from explosions and from spilling the oil through carelessness. A very bad case came under my observation at Kimberley, in South Africa, about which I was consulted by a member of the profession who was treating the case. The patient was a valuable thoroughbred mare that had been imported from England, the property of the then Attorney-General of the Cape, and two other leading colonists. She was in training, and had been brought to Kimberley for the races. In the centre of the beam of the stable in which she was lodged was a hook on which an ordinary hurricane lantern was suspened. The only way to remove this was a stick with a hook at the end by which it was lifted on and off, as goods are in a shop. While it was being put either up or down the mare kicked at the groom, a "Cape boy," who let the lamp drop on her back, over which the burning oil flowed. The stable was luckily corrugated iron, and there was no bedding down, or the mare would have been burned to death. When I saw the animal some days after there was a large slough over the loins, and although it gradually healed, I believe she was never much good for racing afterwards, as the parts contracted, adhesion took place between the muscle and skin, and her galloping powers were interfered with.

The old pattern singeing lamp with oil or naphtha used to be a source of danger in inexperienced hands, and only a year ago I saw two cases of bad burns from this cause. When the flame burned low the lamp was tilted up, and unless care was taken some of the oil was very likely to fall on the skin. The introduction of gas has much minimised this danger.

Injuries from animals falling into burning material must be uncommon in England. In India they are by no means rare. It is the custom in that country to burn stable and other refuse in pits outside the town; also bricks are baked in long trenches—not in kilns, as in England. Animals, being turned out to graze, will fall into these traps, and, when hobbled, are unable to get out. Very severe injuries are the result of such accidents.

Scalds amongst equines are not common. They are usually the results of accidents, such as the bursting of steam-pipes or boiler explosions. I saw an accident of this nature on board ship, caused by the bursting of the main steam-pipe that ran from the boilers below to one of the winches on deck. Several mules were badly scalded before the steam could be turned off. I also once had a patient with the mouth scalded from a warm drench being administered. The membrane of the mouth, tongue, pharynx, and æsophagus were sloughing, and the animal was in a state of high fever. The case ended fatally, but such gross ignorance could hardly be met with in this country.

In dogs, my experience is that scalds are by no means uncommon. They live more in the house and in contact with their masters. I have seen scalds take place from dogs sleeping in front of the fire on which a kettle is boiling. The coals give way, and, the kettle sinking forward, a stream of boiling water from the spout is poured over the animal. Persons carrying about hot water and tripping over dogs also often causes scalds. I have also seen cases of scalds from boiling water being maliciously thrown over dogs.

It must be remembered that if the action of the steam is prolonged, that there is usually injury to the mucous membrane of the respiratory tract, and, in my experience, this is usually fatal. The reason is, I think, that for the respiratory organs in our patients to be injured, the volume of steam must be

very great, and therefore the injuries to the surface of the body will be severe in a corresponding degree. In the accident I mentioned above, of a steam-pipe bursting on board ship, if my memory serves me right, three of the five mules injured died. These three stood next to the place where the pipe burst, and all showed pulmonary symptoms. It must also be remembered that boiling water is not so destructive as thick, viscid fluids, such as oil, salt solutions, or saccharine matter, and of this fact I think most of us have had practical experience in our youth in the shape of the agony caused in attempting to eat hot raspberry jam tarts. An injury which is a compound between a scald and a burn is caused by the malicious pouring of turpentine or kerosine oil over dogs and setting it on fire. Such offences were not unknown some years ago, but lately they have not been heard of. Possibly the very severe sentences inflicted on the perpetrators of such abominable cruelty had a wholesome effect.

Scalds do not produce such deep injuries as those caused by flame, or heated metal, but as they are likely to extend over a large surface of the body they are dangerous.

Classification of Burns.

There have been many classifications of burns proposed, mostly by French writers, many of them being fanciful and pedantic in the extreme. Dupuytren's and Boyer's are those most commonly recognised. The former divides burns into six classes:

1. Those characterised by erythema of the skin.
2. By inflammation of the skin, elevation of the epidermis, and the formation of vesicles.
3. Destruction of a portion of the thickness of the true skin.
4. Destruction of the whole thickness of the true skin down to the connective tissue.
5. The above with the destruction of the muscular tissue.
6. Where the whole limb is disorganised and carbonised.

Boyer's classification is into degrees, viz., hyperæmia, inflammation, and mortification. This has been adopted by Mr. Christopher Heath and Dr. Thomson Smith with merely a slight alteration in the wording, and is what I propose to follow.

Burns of the first degree, which Boyer distinguishes by congestion, are simple scorching of the surface. They are caused by a radiated heat, a very slight application of flame, or a moderately heated solid or fluid. In tropical countries burns of this degree are caused by the bit being left in the sun and put into the horse's mouth hot, when the angles of the mouth are injured. The characteristics of this degree of burn is well marked in such cases in white-faced horses. If the skin is destitute of pigment there will be erythematous redness which will disappear on pressure. The extent of this redness corresponds with the burnt surface, but its edges are ill-defined, and not clearly marked out. The skin is dry, harsh to the touch, and may be slightly swollen and elevated. In mild cases this redness, which of course cannot be detected in dark-skinned animals, will disappear in a few hours, but in severer ones it remains for some days, when the epidermis desquamates. As a rule burns of the first degree are not dangerous and require but little treatment, but they follow Dupuytren's law, viz., that the severity of a burn depends on the extent of surface injured rather than on the depth it penetrates into the tissue. This authority states that in the human being that even a burn of the first degree is fatal if two-thirds of the area of the surface of the body is involved. Whether the same rule would apply to our patients I cannot state, for I can find no data to go upon, but this is a point on which perhaps some member can enlighten me.

Burns of the second degree, distinguished in Boyer's classification by vesication.

If the skin is white there will be one or more patches of erythema, and on each patch there will be numerous vesicles containing a clear yellow serum. These vesicles vary in size in an unaccountable manner. On the same injured surface they may be seen from the size of a sixpence to large bags of fluid a foot or more in diameter. If the case does well the heat and redness of the skin soon pass away, the vehicles break, and the fluid escapes, the epidermis dries up and desquamates, leaving a smooth surface underneath, which is denuded of hair for the time being. Care must be taken to prevent the vesicles from being permanently ruptured, or the epidermis, which is a protective to the true skin, from being rubbed off, as in this case inflammation and suppuration is likely to take place, and even sloughing; but, as a rule, in even severe burns of the second degree there is no permanent scar left. Burns of the second degree are generally caused by scalds, or the contact of heated metal for a very short time.

Burns of the third degree, distinguished by mortification in Boyer's classification, can be divided into two classes, mild and severe. I first propose to deal with the mild burn. In this, not only the epidermis, but a portion of the true skin, is destroyed. Sloughs of a dark colour are cast off, which are sometimes dry and dessicated, at others moist and soft, and then they often have vesicles on their surface containing blood-stained fluid. The sound skin round the burn is in a state of erythema, and frequently covered with small vesicles, as in a burn of the second degree.

Sir Robert Christison proved that when such an injury was inflicted on the human body during life, the dead tissue was surrounded by a narrow band of dead white and then by a red ring, caused by extravasation of blood and injection of the minute capillaries. This red ring again gradually shades off into the healthy skin, but the red blush extends a considerable distance from the burn. The fact is mentioned in Taylor's "Medical Jurisprudence," also some experiments by which it was shown that the application of heat only a very short time after death, even before the body had got cold, would not produce this appearance. I have not been able to detect the red zone in animals, but the white ring is clearly marked. If the case goes favourably, the sloughs are thrown off in about three weeks, leaving a greyish surface studded over with red points, which heals with a smooth scar; usually the hair is destroyed, but sometimes some are left, and the patch is not always quite bald. Owing to the presence of sound skin beneath, the scar is generally freely moveable, as there are no adhesions to the deeper structures, and for the same reason there is no distortion by contraction.

Severer form of wounds of the third degree. In these the whole of the skin is destroyed as well as a portion of the connective tissue, or even portions of the muscles, and deep-seated structures. Burns of this nature are only caused by prolonged applications of flame or heat to the body, and hence are not so common as those of the first and second degree. A hard dry eschar is formed which when cast off leaves the muscles, vessels, and deep tissues exposed, and in this process very frequently severe and obstinate hæmorrhage takes place. Naturally when there is such an extensive destruction of tissue the pit of the resulting ulcer is very deep, and heals slowly with a good deal of exhausting suppuration.

These are the chief local characteristics of burns, but with the primary lesion there is systemic disturbance which is, by Boyer, classified into three stages, viz., prostration, reaction, and suppuration. In passing I would point out that in the human subject one of the leading features in these stages is the amount of pain present. Of this our patients are unable to give us any indication, beyond the fact that we know that they are in pain to a greater or lesser

degree according to the nature of the injury, and I think that it is only reasonable to suppose that with burns of different degrees there are different degrees of pain.

In the first stage in which there is prostration and congestion, pain is the leading feature, and in burns of the second degree, especially if caused by steam or boiling fluid, it is very great if the injured surface is large. Pain will be aggravated in injuries of this nature if the vesicles are ruptured and the epidermis rubbed off. In this stage there are often severe rigors, and thirst, and in both dogs and equines I have noticed a constant desire to urinate. This was also observed by M. Nelaton in the human being. The period of inflammatory reaction varies with the nature of the burn, being longer in those of the third than the first and second degrees, or, in other words, is *in ratio* with the amount of tissue destroyed. There is usually a certain amount of fever, but, unless there is inflammation of some of the viscera, the temperature is not, as a rule, high. If an extensive surface of the thorax is burnt, thoracic complications, such as broncho-pneumonia and pleurisy, are commonly seen, with severe and obstinate coughing. There appears to be considerable pain just before the sloughs are given off, and, as has been mentioned, there may be considerable loss of blood.

The third, or suppurative stage, is the time comprised between the casting off of the slough and the healing of the exposed surface. There is profuse discharge, and, if the injury be large and deep, a considerable degree of fever. The ordinary complications of a wound, such as cellulitis, sloughing, pyæmia, and septicæmia, may supervene at this stage; also inflammatory pulmonary trouble. In the human being, ulceration of the duodenum is a somewhat frequent and dangerous complication of burns, especially in young subjects. Curling and Holmes found it in 16 out of 125 fatal cases. Johnson Smith, in 25 cases, found 6 were under 5 years of age, 15 under 10, and 1 above 30; and, in the same series of cases, 3 occurred in the first week, 8 the second, 6 the third, 1 in the fourth, and 2 in the fifth week after the injury. Mr. Erichsen reported a case in which symptoms of intestinal ulceration were seen on the second day. I have never seen this complication in the larger animals, but I have twice noticed considerable inflammation of the small intestines in dogs, accompanied, during life, with the passage of blood in the fæces, which were dark in colour, fluid and offensive. This, however, is another point on which I trust to be instructed before the discussion on this paper is finished.

Treatment.

Treatment is local and systemic. In long-haired animals it is advisable, if possible, to remove the hair. This is, no doubt, a tedious process, and great care must be exercised, for if roughly handled the epidermis will be pulled off and the raw surface exposed. But it can be done with a pair of sharp scissors, and is not so difficult as might at first be imagined, as a considerable part will be singed. In severe burns I think this is very necessary, otherwise when the suppurative stage is reached it will be impossible to keep the part clean.

In burns of the first degree the first indication is to remove pain, which, if accomplished, brings about resolution in a very short time. This is best done by cold application. In large animals, if the injury is on the lower part of a limb, it can be put into a knee bucket, or if on any other part a hose pipe gently played over it will have a good effect. In foreign countries I have kept horses standing in a stream or pond for the same purpose, and doubtless this could be done in country places in England. Lead lotion, or weak vinegar and water is also useful, and in small animals, a domestic remedy, viz., dilute Eau de Cologne, can generally be obtained. The part should then be wrapped up in thick layers of cotton wool or tow, which should not be removed, and

little more need be done. There is no occasion to use medicated or absorbent wool; that obtained from a draper, cotton waste used for cleaning machinery, or the flock out of a mattress answers perfectly well for our patients.

In burns of the second degree, where there is vesication, the object to be kept in view is to exclude the air. It is advisable to make one or more very small punctures with a needle at the lower part of each vesicle to allow the fluid to drain out slowly, but taking great care not to rupture them. The part should then be covered with some thick dressing, of which there have been many brought to notice. Fine wheat flour sprinkled thickly on the part with a dredger, has the advantage of being easily obtained, but the drawback is that if the part should suppurate it cakes, becomes foul, and is not then easily removed. Carron oil, linseed oil, and lime water in equal parts is another popular application. In small animals olive or almond oil may be substituted for linseed. It can be rendered more efficacious if a small quantity of carbolic acid is added to it. Carbolic oil, olive oil, and yolk of egg in equal parts, chalk, zinc ointment, carbonate of lead ointment, castor oil and collodion (1 to 2 parts), a saturated solution of bicarbonate of potash, an emulsion of bicarbonate of potash and linseed oil, glycerine and boracic acid, white lead or putty made into a paste with oil, and iodide of starch (1 part tincture of iodine to 2½ starch) have all been recommended; also when there is great vesication a solution of nitrate of silver (20 grains to the oz.). I have found a mixture of subnitrate of bismuth and glycerine a good application, relieving pain, but it is expensive and really only applicable for small animals. Cotton wool should also be used as before described, but in this case should be antiseptic. It can be used by putting it directly round the limb, but this I think unadvisable, as it is difficult to remove if required without tearing off some of the epidermis to which it sticks. It is a better plan to first apply one of the emulsions or ointments above mentioned and then the cotton wool on the top of it, which should not be disturbed oftener than is necessary for cleanliness.

In burns of the third degree, where the deep-seated tissues are exposed, the object to be kept in view is to promote the removal of the eschar, prevent putrefaction, and as much as possible suppuration, and assist in the cicatrication of the open wound. This is generally done by applying some stimulating dressing such as carron oil, carbolic oil, turpentine liniment, or resin ointment, and then putting thick layers of cotton wool over all. The wool should be absorbent and antiseptic on account of the suppuration that cannot be avoided, and it should not be disturbed oftener than is necessary for cleanliness. When changed it should be carefully picked off, and those particles that remain washed off with a syphon douch, and a weak solution of carbolic acid, iodine solution or chloride of zinc (10 grains to the ounce). I consider that a syphon should always be used. Washing with a sponge, no matter how carefully used, is likely to detach the epidermis. Picric acid has also lately been used (picric acid 1, alcohol 15, to water 100 parts). There are articles on it in *The Recueil de Médecine Vétérinaire* of 15th August, 1897, by M. Varion, and 15th April, 1898, by M. Lesage; also in *The Veterinarian* of May, 1898, by Veterinary Captain Pease, Lahore Veterinary College. I have used this dressing and can highly recommend it. The alcohol is used to allow the yellow stain of the acid being easily removed.

After the eschar has been removed the exposed surface is to be treated like an ordinary granulating wound or ulcer, and our chief attention should be directed to promoting the formation of cicatricial tissue without deep adhesion, and preventing deformity by the edges of the ulcer contracting, and this will chiefly be achieved by care and absolute cleanliness in dressing, as well as constitutional treatment. In our patients the chief parts that become deformed are the mouth, nostrils, eyelids, and backs of the knees, front of the hocks, chest, and elbows, but if sufficient skin is lost and the wound not

properly treated it may take place anywhere, and as I have before said I have seen one case with permanent deformity and adhesion of the cicatrix in the lumbar region. In dogs, burns of the feet frequently cause contraction and deformity of the toes. In the human being grafts are used to prevent contraction and deformity, as well as in cases where the ulcer is tardy in healing. In our patients this is a difficult and tedious operation, and I am well aware in the majority of cases impracticable from the surroundings of the case, nevertheless grafting fresh skin is possible, and I have had success both with the pin point and long graft, or Tirsh's method. In cases of indolent ulcers, I have found hazeline, the extract of the inner bark of the hammalis virginica, or American witch hazel, act as a beneficial dressing. This drug is official in the U.S. pharmacopœia, and is mentioned in both Squire's and Westcott and Martindale's extra pharmacopœia. Hazeline cream, composed of hazeline with lanoline as a vehicle, is a convenient form for this purpose.

Constitutional treatment.—Our patients are not so liable to succumb to shock as human beings are, but nevertheless it must not be forgotten as a cause of fatality, for in many instances it exists. The patient should be kept warm, if possible clothed, but if the clothing comes in contact with the injured part it must be dispensed with, and the box or stable artificially warmed, taking care, however, not to interfere with the ventilation. This can be done by putting an oil stove in the adjoining stall or gangway. Small animals can easily be placed in a box or basket and covered with a blanket, and placed in front of a fire if necessary. If there are rigors, a diffusible or alcoholic stimulant should be given, and if the pain is very severe an anodyne, such as laudanum, chloral, or an injection of morphia given. A suppository or enema containing chloral I have found useful. When reaction has been established, and the severe symptoms of collapse have disappeared, the alcohol should be stopped. Gruel, or, if the patient will drink it, milk should be given, with green food and bran mash, or boiled barley or rice. Water should be given *ad lib.* and a small quantity of dilute sulphuric acid may be added to it. Thin oatmeal gruel or rice water will generally be taken, and is refreshing. If there are pulmonary symptoms they must be treated accordingly, and the same applies with diarrhœa and bowel complication. The cases where the larynx and pharynx have been injured either by boiling fluid or smoke, in my opinion the sooner tracheotomy is performed the better. If the feet have been injured, the shoes should be taken off as soon as possible, the feet put into cold swabs or a foot bath, or best of all stand the patient in a running stream as long as possible, but my experience is that if the feet are badly injured the hoofs slough off and the case is hopeless. When suppuration has set in and the dead tissue is being thrown off the system requires supporting by a generous diet, and the same rule exists while the ulcer is healing up.

These are all the remarks I have to make on the subject. Very few of them are original, they have been compiled from various sources coupled with my own observations, which possibly are all wrong, and which will be scattered to the four winds of heaven before I leave the room. I trust gentlemen, that those amongst you who have seen such injuries will give the Society the benefit of your opinion, and I am selfish enough to hope that I may be a wiser man on this point to-morrow than I am this evening, as I have come before you for my own ends—to obtain, not to impart knowledge.

Discussion.

The CHAIRMAN: We have had a very interesting paper on a subject, which, as Major Nunn truly said, did not at first sight furnish any probabilities of a discussion, but I think now that there is ample material before

us for a very interesting discussion. The meeting is now opened, and I shall be glad if a large number of members will avail themselves of the opportunity.

Mr. BUTTERS: First of all I must thank Major Nunn for his able paper. It may be, as he states, that it is not all the result of his observations, but there are very few of us who who would be able to compile a paper like that from our own personal experience. I have seen a few cases of severe scalds and burns, but not lately. I cannot say how deep or how severe it is necessary for a burn to be to prove fatal. Although a burn may not prove fatal, if severe, it will probably mean that the horse will have to be got rid of, as the value of same and the length of time it would be under treatment have to be taken into consideration. Blemishes of this sort have of course the effect of reducing the value of the animals; people do not like to see animals walking about with large bare patches on them. I remember a horse falling on a red-hot metal plate. It got badly burnt about the sides, ribs, etc. Being a valuable animal it was put under treatment. After a long time the sloughs healed over sufficiently to make it presentable for working. Major Nunn referred to scalds to the mouth and throat through giving drenches; in my experience most of these cases die where there is extensive burning of the mouth and throat. The classification given by Major Nunn from the French writers is very good, especially that of Boyer, which is one that might be accepted by all veterinary surgeons. With slight burns and scalds we are all more or less familiar. With regard to treatment, I think a covering of flour and the use of carron oil answers very well. Of course where there is deep sloughing the dead portions must be removed where necessary. I must again thank Major Nunn for bringing this matter before us.

Mr. WRAGG: I do not think I have come across a severe case of scald or burn. Those which have come under my notice have only been trivial and not caused any constitutional disturbance. I must endorse what my friend Mr. Butters has said regarding this very excellent paper introduced by Major Nunn. His experience seems very extensive. I may say I have used a mixture of lime water and linseed oil in the slight cases above referred to.

Professor MACQUEEN: After the apologetic way in which the Major has introduced the paper, I must be guarded in saying anything derogatory. The subject is something fresh, at any rate, although Major Nunn may have said nothing fresh with regard to it. Burns and scalds are not common, I believe. I have seen horses suffering from burns by sulphuric acid, and from the effects of scalding by steam. I remember an extensive fire in a 'bus yard, where several horses were destroyed, and others, which were injured, lived for a time more or less long. I have seen cases of burning in smaller animals, and, like other members of the profession, cases, in a more limited area, in horses. I fail to notice any reference by Major Nunn to the pathology of burns and scalds. As I understand the condition of affairs nowadays, the effect upon the skin is to produce necrosis of the tissues involved. I should have expected Major Nunn to have quoted a rather more recent authority than Sir Robert Christison on the effect of the necrosis. Since his time the pathology of same has undergone wondrous changes. As regards the effect of the burn constitutionally—the danger, so to speak—I find that where death occurs from a burn, it is mainly because a very large surface is affected. Where such is the case, it is practically impossible to keep the part aseptic. If, say, a part of the head, trunk, neck, or chest is burnt until the muscular tissue is exposed, you will quite understand it is by no means easy to apply dressings.

As to the treatment of burns, small ones do not, I think, present any difficulty. I find a very useful application for diminishing pain is a mixture of tinct. of opium and tinct. of camphor. For the larger burns that occur in

horses, we are compelled to use something that does not require a bandage; in many cases, owing to the position and extensive surface, bandages cannot be applied. If we could prevent suppuration, there is no doubt that ordinary wounds caused by burning would be just as amenable to treatment as others. The results of such injuries are sometimes severe and permanent, and have after effects which frequently prove serious. It is customary to speak of another condition as a result of burns, that is ulceration. The treatment of this, however, is a special subject and a long one. Then there is another feature of the healing or non-healing process in the case of burns, and that is retraction of the skin. Major Nunn alluded to it as a permanent deformity.

My last word with regard to this subject is that the chief difficulty attending scalds and burns is the extensive surface destroyed, and to keep the remedies in position.

I must compliment Major Nunn upon entering a ground which is not often introduced to a veterinary society. He has an aptitude for bringing forward curious ideas, and manages to dress them up in a very satisfactory manner. I think we must congratulate him if only for wresting some of these exceptional things from their slumber.

Mr. SINGLETON: My experience of scalds and burns has been exceedingly limited. I had a case some time ago of a horse badly burned in the foreleg, a part easily treated as far as position, and he recovered. Then I had the case of a cat—a rather troublesome patient—which had been thrown or fallen into some recently slacked lime. When I was sent for and saw the cat he was covered with lime—the difficulty, of course, was to try and remove same, which, however, I ultimately succeeded in doing. The animal was thoroughly washed and subsequently recovered. With others I am very much obliged to Major Nunn for his valuable paper.

Mr. SAMSON: During 30 years' practice I do not think I have come across many cases of scalds and burns, but two serious cases have come under my notice. One was caused by an explosion in a firework factory, and the other was the case of a horse which had stumbled and fallen among some burning embers of rubbish in Battersea Park. Before it could be got up it was badly burnt. It was brought to my place, and was six months before it recovered. As a dressing I used a mixture of liq. plumbi acetas and olive oil. I prefer olive oil to linseed, the latter being sticky. I much prefer, for large wounds, to dress with a syringe with several large holes in the end, as you get your dressing all over the surface. The case mentioned was in the hot summer weather, and I had the utmost difficulty to keep the flies off. I tried fine gauze, and also some finely powdered starch, which I carbonised.

Mr. ROWE: I occasionally get called upon to attend to small animals, such as dogs and cats. As Mr. Singleton stated, dogs not infrequently get scorched by slaked lime left about where buildings are in course of erection. In such cases I generally trim the hair off round the injury and dress with carron oil, and afterwards dust over with oxide of zinc.

Mr. W. E. TAYLOR: My experience of scalds and burns has been slight. I remember some twenty years ago a fire broke out down at my home; one horse was burned to death and another severely injured. The treatment we adopted was to dust the wounds with starch and iodine—a drachm of iodine to two ounces of starch. The horse made a very good recovery in about three months.

Mr. PERRYMAN: Major Nunn has, I believe, purposely left out any reference to burns from the action of chemicals. I have had two cases of acid burns. One, a horse, got out of his stable and kicked over a carboy of sulphuric acid. When I saw it the animal seemed simply scorched. I had the greatest difficulty to limit the area of the burn. It was two or three days before I was able to tell how much sloughing would take place. I also found it

extremely difficult to touch the animal, as it was very sensitive. We saturated the limb with oil and then dusted it with flour mixed with oxide of zinc. At the end of a fortnight great masses of skin sloughed away. The second case was very similar, except that some attendants were in the yard and immediately flushed the leg with water.

Major NUNN, in reply, said: Some of the gentlemen who have spoken have mentioned burns and scalds from drugs, but this subject I purposely avoided. I have adhered to Boyer's classification. I could, of course, enlarge on the subject, but you will probably consider the paper was quite long enough. Several gentlemen have alluded to injuries from slaked lime, sulphuric acid, etc. I have seen many such cases as these. I am disappointed that no member has said whether or no he has come across a case of ulceration or congestion of the duodenum, which is so fatal and common in the human being. Mr. Butters mentioned that he used carron oil as a dressing, and it is a very good thing too—some of the things which I referred to might be regarded as a refinement of treatment, only within reach of those horse owners who wanted the very best and could afford to pay for it. For ordinary purposes the cheaper dressings answer very well. I am much obliged to Professor Macqueen for his remarks, and for his reminder about deformity taking place in the sheath and fold under the flank. With regard to skin grafting, if I am not detaining the society, I should like to mention a curious case which came under my notice. A horse was being ridden by a certain officer in the Afghan war, when it received a cut across the tail from a long Afghan knife; it was a slicing blow, and took off a portion of the right haunch, leaving a long strip of flesh loose. The horse was attended to by an Indian farrier, and recovered, but had a long graft growing out of its quarter.

Professor Macqueen said there was nothing special about scalds and burns, and as far as he says, with regard to lesions, there is nothing special. I thank Mr. Samson for his valuable hint about applying dressings with a syringe, which has several large holes in the nozzle. As most of my professional life has been spent in tropical countries I can quite appreciate what he says with reference to flies—there is a Mohammedan saying, that the devil takes the form of a fly—and we have to carefully guard against them. If the wound is of any extent it must be carefully covered with gauze, and generally a special oil is used, known as Gurgeon oil, it is extracted from a tree the botannical name of which I forget. Mr. Taylor mentioned iodine and starch, it is a preparation which I believe was brought to notice by an Austrian military surgeon who used it for soldiers' feet, after hard and continued marching.

Mr. PORCH: I beg to propose a vote of thanks to Major Nunn. The subject dealt with is one which does not frequently come under our notice in general practice, and I feel sure we have all been exceedingly interested in listening to the paper and the discussion which followed.

Seconded by Mr. Singelton, and carried with acclamation.

A vote of thanks to the chairman terminated the proceedings.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

(*Continued from page* 38.)

Special Case.

Mr. RUTHERFORD brought before the meeting an interesting case of thrombosis of the iliac veins, and it was agreed that the case should be brought up for discussion at the next meeting of the society.

Mr. MOIR then read his paper on "Notes by the way."

Mr. President and Gentlemen,—The paper I bring before you to-day is entitled: "Notes by the Way." They date from a period 40 years ago, the year 1858, when I began my veterinary studies, and are the basis of the plain, unvarnished tale I will unfold. It is in a high degree gratifying to me to know that there are among my auditors some fellow students of a period so remote as that mentioned, and others who studied at a period even anterior to it, all of whom have risen to eminence in their profession, and who continue to be staunch supporters of this society.

To those who have been accorded the privilege of lingering on memories of the past, that feelings both mournful and pleasurable should be awakened, is inevitable. They can claim the consolation, however, so beautifully depicted by the old English poet, Dryden, that—

> Be't fair or foul, be't rain or shine,
> The joys I once possess'd, they still are mine;
> Not Jove himself, upon the past hath power,
> For, what has been, has been, and I have had my hour.

By way of preface, gentlemen, I would remind you that just 80 years ago a young man named William Dick, a native of this city, and the son of a farrier, travelled to London (no mean journey in those days), but, unlike most Scotsmen, not to stay. His purpose was to study at the Royal Veterinary College, then only some 27 years in existence, to acquire the diploma granted by that institution. That he was a clever student is evidenced by the fact that in less than four months he attained his object. His examiners were medical men of the highest eminence, who had rallied round Coleman, the principal of the college. There were among Professor Coleman's supporters, John Hunter (the anatomist), Sir Astley Cooper, Sir Charles Bell, Sir Benjamin Brodie, and others whose names still live in medical history. Coleman also acted as an examiner. On Dick's return to Scotland he commenced and continued to teach under very discouraging circumstances; one student for two or three years being the sole attendance at his class. That dogged pertinacity which was the leading trait of his character, eventually, however, carried him over the obstacles of public indifference and ignorance of the value of the veterinary knowledge, such as he alone in Scotland was able to furnish them with. In the course of four years, viz., in 1823, the Highland Agricultural Society of Scotland, and the Senatus Academicus of Edinburgh, came to the rescue, and from that time until his decease in 1866, a success no less well deserved than remarkable, attended his efforts to train men for the practice of a profession, whose objects are the alleviation of the sufferings, and the cure and prevention of the diseases that afflict that section of the animal world, lower only in Nature's scheme to man himself.

Speaking at this point from personal experience, I am enabled to say that his teaching methods were simple, concise, and impressive, free from finely-spun theories and confusing technicalities. Many of his pupils were men thoroughly conversant with the ways and habits of horses and cattle, in short, practical men, but devoid of classical knowledge, and not seldom that of the three R's—reading, writing, and arithmetic. Yet, from this unpromising material many good practitioners emerged by means of his skilful handling. It must not be thought that his method of tuition was the result of deficiency in his own education. On the contrary, he was a good, indeed, a profound scholar. The present learned librarian of the Royal Society of Edinburgh, now a very old man, relates that when puzzled at any time with an abstruse passage in the Greek language, to elucidate that passage, the best man he could find in Edinburgh was Professor Dick.

His was, indeed, a wonderful personality. Possessed of great natural abilities and honesty of purpose, he was also characterised by a resolute

independence of spirit that would submit to no man or party. He inspired a respect amounting to reverence in all who became his pupils, which feelings for his memory and the *Alma Mater* he founded for them, relentless time has not diminished one jot. Many distinguished veterinarians of the present day passed through his hands. Time and space permit me merely to mention some of them, Principal Williams, Dr. George Fleming, Principal McCall, Principal Andrew Smith, of Toronto, Principal MacEachran, Montreal, and many others, of whom it can be said that, although not principals of colleges, they are quite capable of being so. I will refrain from entering at any length into the domain of veterinary politics, with regard to the strained relations that existed between the Edinburgh (Dick's) College and the London College for so many years, following the Royal Charter of Incorporation in 1844, which he co-operated with the London College in securing, interesting chapter as they form in the history of our profession, further than to state, "he held his own." After a brief experience of it, he would not countenance the London Board of Examiners for his students, and resumed the issue of diplomas of the Highland Agricultural Society, although much to his annoyance he could not fail to see that its diploma was being gone in for by some of them, when the London Board visited Edinburgh to examine Professor Gamgee's students. Many through respect for the old man's wishes and ideas contented themselves with the "Highland" for a time, ultimately, in some instances years afterwards, undergoing examination in London or Edinburgh for the diploma of the Royal College of Veterinary Surgeons. Before his death, in 1866, a Royal Veterinary College of Scotland was his desire and intention to move for in Parliament, by the assistance of our Scottish legislators, and this was agitated for a few years subsequent to that occurrence by the Highland Agricultural Society and the Edinburgh Town Council. By the terms of his will he had appointed the Council, of which he had long been a member, as his trustees; his means to be devoted to the teaching, cultivation, and improvement of veterinary science. The movement for a Scottish Charter evoked protests from many quarters, Principal McCall, of the Glasgow Veterinary College, who had important vested interests at stake, being strongly opposed to it, and the scheme fell to the ground. At the risk of being thought unpatriotic I am of opinion that our profession was a gainer by this failure: that rivalry between different teaching schools may conduce to a healthy state of matters, but a rivalry between bodies conferring similar degrees a contrary effect.

Turning back a few years to my student days, a brief reference to the talented and versatile professor, John Gamgee, may not be unacceptable to you. The new Veterinary College, Edinburgh, of 1858-65, was established and conducted by Professor John Gamgee, under the auspices of the Royal College of Veterinary Surgeons. Of him it has been well and truly said, he was a star of the first magnitude in our veterinary firmament. He was a superb lecturer, a linguist, and a highly accomplished man, but with the great and solidly built up reputation of Professor Dick as a practitioner and teacher to contend against, he could make no headway with his school. William Hunting, Professors Law and Duguid are examples of the class of men he could turn out, when given the opportunity. John Gamgee has gone over to the majority, and by all who had the pleasure of knowing him he will always be remembered as a man of exceptional gifts.

To revert to my Alma Mater with reference to the position of affairs there, following the death of its founder. Some little delay took place on the part of the trustees before the appointment of Principal was made. To succeed such a man as Dick, to carry on his life's work required administrative and professional talent of a high order, and their choice ultimately fell on William Williams, of Bradford, who had acted as an examiner for some years at the

Clyde-street College, was a successful practitioner, and at the same time was young, energetic, and imbued with a zealous love of his profession. This selection met with the universal approbation of his professional brethren. He entered upon his duties in 1867, and for a time "all went merry as a marriage bell." The students increased in number, and the clinical practice increased in extent and value. The Dick Trust Committee of the town council that had the power of swaying the destinies of the old college for good or ill, worked hand in hand with him. Alas! this happy state of matters was not to continue. Electoral changes were the means of altering the composition of the Trust Committee. Councillors were introduced, excellent business men no doubt, but having no intelligent knowledge of collegiate requirements.

Then commenced a series of troubles in the college. Arrogant interference, born of ignorance, with the man at the helm of the old ship (who was not one to submit tamely to such fatuous conduct), and mutinies among the crew, viz., the teaching staff, which he had to cope with, unsupported either morally or materially by the trustees, culminated in the resignation of Williams, disgusted and disappointed. The tyranny and injustice of these men, "dressed in a little brief authority," had driven him from a position endeared to him by its splendid associations. During his six short years of office, his sole ambition had been to uphold and forward the prestige of his Alma Mater, and carry out the wishes of his old teacher. His career since that stormy time amply proves that, had he been fairly treated, he would have continued to adorn the mantle of the great man that had fallen upon his shoulders. But the situation had become so intolerable that he preferred to face the world for a livelihood, unaided and alone. But, "thrice armed is he who hath his quarrel just." On his departure, he was followed almost *en masse* by the students of the college from which he had resigned his connection, who thus testified their sympathy and appreciation of his worth as a teacher and a man. This action by the students was the more remarkable for the reason that they were practically placing themselves without the pale of the Examining Board of the R.C.V.S., whose diploma they were striving to gain. This state of matters had to be remedied, if possible, by Professor Williams. At this juncture he found himself in a very tight place. On the one hand there were the interests of his devoted pupils and his own at stake; on the other, the determined opposition of a powerful body—as the town council of Edinburgh must be acknowledged to be—who, seeing, when too late, that by their own mismanagement "the fat was in the fire," set to work to suppress Professor Williams. Accordingly, a deputation proceeded to London, headed by the Lord Provost, Sir James Cowan, and supported by Duncan McLaren, M.P. for Edinburgh, who was a power in Scottish affairs at Westminster (and a brother-in-law of that great statesman, John Bright), interviewed Mr. Low, the then Home Secretary, with that end in view. Their errand was fruitless. They pled, that to grant a sign manual to Professor Williams would be prejudicial to the Dick College and the valuable trust held by them for preservation and administration. But their plea was not entertained. The Home Secretary passed on and recommended Professor Williams's petition (which, to the credit of the R.C.V.S., was sanctioned by that body) for Her Majesty's approval, with the result that in a very brief space of time he was the proud owner of that much-desired document, the Sign Manual, signed by our gracious Queen.

Placed by its possession in a position of security and independence, he undoubtedly was, but the effect on our dear old college could not be otherwise than of a damaging nature. It was by a strange irony of fate that a council, of which Professor Dick had been a member for many years, should have by its inept methods developed an opposition harmful to say the least,

to the progress of the noble objects that had been entrusted to it, to foster, protect and guide, and I make bold to say that had Williams been fairly treated, the opposition for the past twenty-five years of his New Veterinary College would never have been in existence.

Pursuing the even tenour of its way during this time of storm and strife, the Glasgow Veterinary College, founded in 1863 by a distinguished alumnus of the Dick College, Professor James McCall, was doing good work in veterinary education. In the able hands of its founder it continues its successful career, and that it may long prosper, "that its shadow may never grow less" is, I am sure, the wish of all of us.

Before turning this page of my notebook I feel it incumbent on me to refer to the late Professor Walley, so long and so honourably identified with the Dick College. Under his management, the zeal and ability by him displayed gradually increased the attendance of pupils in a marked degree. He had a small number to begin with when installed in the chair of Principal, and he was much loved and respected by them. His literary and scientific attainments rendered him a most capable teacher, and his death at a comparatively early age is much to be regretted. All honour to his memory.

Casting one's thoughts back to the first milestone of our journey, and looking down the long vista of years to the present state of the veterinary profession, the one thought that springs to our lips is, what a change! A more interesting or a more pleasing theme than the marvellous progress our profession has made could not be laid before veterinarians, and I regret that the limits of this paper will only permit of my touching on a few of the causes that have contributed to that change.

First and foremost is the improvement in scholastic education. For this we are indebted to the council of the Royal College of Veterinary Surgeons.

Step by step (since the retirement of the Highland Agricultural Society as a diploma-granting body) the eminent and able men of our profession who constitute our council resolved to keep pace with the times, have instituted measures designed to raise the status and enhance the usefulness of the veterinary surgeon. From two short sessions of six months each, step by step the curriculum has been extended to four sessions, and the candidature for the diploma made available only to well-educated men. I may remind you, however, that there is no royal road to learning, as before these changes came into force there arose giants in our profession, past and present, men who did not ask that the road should be made smooth to them, but themselves carved a pathway to eminence.

The colleges, although differing occasionally on questions affecting their relative interests, are nobly vieing with each other to provide the best education possible for their students, and to support the council to which they have declared their allegiance.

The effect of improved education has been to raise the veterinary art to a science, and to create a revolution in our pathological methods of treatment any ideas. The sixth decade of this century had not yet been illumined by the stream of light that science was to disclose later on, but one startling ray was revealed by the discovery of the anthrax bacillus in 1855. It opened a new era in science—the substitution of conjecture and speculation for facts—and sowed the germ of the science of bacteriology. Years elapsed before the laborious and constant researches of our scientists, or I might with more accuracy say the continental scientists, discovered the vast extent and work in Nature of the germ world. Meanwhile the antiphlogistic treatment of disease, the "balling, bleeding, and blistering was in full vogue, although it is but justice to say that a few independent observers, including Principals Williams and McCall were sceptical of the soundness of these methods, and were altering the lines of treatment hitherto laid

down by teachers, more especially in pneumonic affections. In the medical world, homœopathic treatment was showing better results than allopathic. The veterinary homœopathists were undoubtedly successful also, and the idea that desperate diseases required desperate remedies became gradually abolished from the minds of practitioners. I have always thought that the decline of homœopathy dates from the time that practitioners, medical and veterinary, modified their methods of wrestling with disease. There is a moral to be deduced from this—that, to cure disease, advantage is to be gained by doing too little rather than too much. I have no hesitation in saying that no branch of our science in the last twenty-five years has undergone so much alteration as our treatment of disease, and we are encouraged in the hope that we have yet more to gain from the fruits of pathological research. In my youth, singular to say, forms of disease were frequently seen I now rarely meet with—specific or recurrent ophthalmia, nasal gleet, fistulous withers, poll evil, aggravated cases of canker, quittor, acute pneumonia, and naviculartritis, which latter was the curse of Edinburgh horses. A better knowledge by the public of the laws which govern health, hygiene, and improved treatment of the horse's foot doubtless account for this improvement, and the Society for the Prevention of Cruelty to Animals most probably deserves the credit of reducing the number of troublesome and painful fistulæ of poll and withers that were so common long ago.

But how infinitesimal in consequence are they when compared with the epizootics among cattle and sheep that then raged all over the country, causing enormous loss to the nation and bringing ruin to many poor men, that now may be categoried among the diseases of the past. That they were of an infecto-contagious nature was fully recognised, but the real cause was a puzzle yet to be unravelled. Professor Simonds, the greatest cattle pathologist of that day, thus writes:—"The spread of pleuro-pneumonia and rinderpest is due to poisonous fomites (literally fomites or touchwoods, porous substances capable of absorbing and retaining contagious matters) poisonous effluvia from diseased bodies, dispersion of diseases by contagion or infection dependent on peculiar conditions of the atmosphere, plus or minus indications of the earth's electricity or of the air. But whence this or these invisible agents? This fomitic virus who can describe?" Another authority writes: "Every diseased animal, by virtue of the exhalations given off from its body, becomes a focus of the malady and a new source whence the poison, so to speak, is disseminated, but the true pathology is among the *questiones veratæ* of science." Groping in the dark, they were, yet how near to that secret chamber in Nature not yet to be unlocked. The mere mention of the diseases, rinderpest, pleuro-pneumonia, foot and mouth, sheep scab, sheep pox, anthrax and black quarter, must awaken a wealth of memories in the minds of many present. Pleuro-pneumonia contagiosa had been several years among our cattle, prominently, so among dairy cows, when in 1865, rinderpest was imported among a lot of foreign cattle consigned to Islington Cattle Market. Then the veterinary profession scored a great victory and became prominent in the eyes of the nation. It, with the distinguished Professor John Gamgee as leader, had given timely, impressive, and repeated warning that a dread scourge, the rinderpest, was approaching our shores, and that every seaport on our coasts should be sealed against the disembarkation of all cattle from abroad. The advice was not acted upon, and with the direst results. When the disease was allowed admission by an easily traced route from Russia across the Continent, it spread with lightning-like rapidity. Again the Government was urged to adopt immediate slaughter of the cattle affected and the healthy cattle in contact with them, with compensation from Imperial funds as the only remedy to stay its career. This advice was scouted by the press, derided by the medical faculty, and

received with disapproval from all quarters, who in time acknowledged that had the advice been acted upon sooner than it was, millions of money would have been saved to the country.

(*To be continued.*)

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 42.)

Simple Pneumonia.

We will first consider the simple or non-infective form of pneumonia as exemplified in croupous or lobar pneumonia. If the attendant is an observant person, we will probably be called in to see the horse in the initial stage of the disease, and, if so, we will notice the following symptoms :—The horse is dull, refuses his food, and stands, if in a loose box, at rest with his head turned towards the door or a window where fresh air is entering the box; occasionally he is noticed to cough in a full and strong manner. Having turned up his sheet at the flank, we notice that he is breathing much more frequently than normal; in fact, he is blowing, the respirations in number being 40 or more per minute as opposed to the normal 10 or 12 per minute. The nostrils are also dilated and the conjunctiva injected. The pulse, which we now take, numbers probably over 60 or 70 per minute, and is hard and full; occasionally the horse shivers and his coat is staring. The temperature is next taken, and it may register from 105° to 107° F. or even 108° F. Auscultation reveals an exaggerated respiratory murmur with a certain amount of roughness or crepitation. This is heard all over the chest, and more especially at the apices and base of the lungs.

We can now diagnose our case as pnuemonia in the early or congested stage. The next question we ask ourselves is what pathological conditions are in existence in the lung tissue, and what can we do to relieve these? The pathological conditions are the following. The small capillaries in the lung are engorged with blood, giving the substance of the lung a red colour and a firmer feel, but not a solid feel, and if the horse died at this stage, and we were to cut out a portion of the lung, it would not sink in water. On section the surface would be bright arterial in colour, due to retardation of the blood flow, in consequence of which the blood is longer in contact with the air, which still freely entered the air cells before death. The lung tissue is also œdematous, and on pressure a bright red or watery fluid would be forced out, mixed with air. Under the microscope we would see the capillary network distinctly marked out and the vessels filled with corpuscles, while the epithelial cells lining the air vesicles are swollen, and some of them broken away. In order to relieve these conditions, our treatment would aim at withdrawing blood from the congested vessels, stimulating the circulation and relieving the arterial tension. To arrive at this our first and most important duty is to improve the hygienic condition of the patient. This can be done by putting him in a large comfortable well-ventilated loose box, clothing his body suitably and bandaging his legs after having first applied well directed friction. We would next apply counter-irritation in the form of a mustard plaster to each side, using in all about one pound of mustard made into a thick paste with a little water, and well rubbed in for quite 10 minutes, beginning for our own comfort at the highest part of the chest and working gradually downwards. This is better applied to both sides simultaneously. Having completed the application we next put over the mustard paste a thick sheet of brown paper in order to prevent as much as possible the escape of the volatile oil, and also to save the clothing which is then put on.

Medicinally we would administer febrifuge medicine in some of its forms, the one I favour being:

Liq. ammon. acet.	2 ounces.
Sulph. ether..	1 ounce
Aquæ ad	1 pint

One drench, to be repeated every four hours until the fever subsides. The mustard plaster should be left on for two hours and thereafter removed by washing off with lukewarm water, drying the parts thoroughly and applying in the form of a body sweater a toasted flannel sheet with an ordinary canvas sweater on the top. In the great majority of cases caught in the early or congested stage of pneumonia this suffices, and within 24 hours the temperature is reduced to the normal and the animal only requires a few days care to become all right.

I notice that in order to arrive at the same clinical results the adoption of bleeding is recommended, and I am of opinion that this method of treatment would be very valuable and attain satisfactory results if applied in a similar case to the one quoted. I contend that the application of the mustard will relieve the congested condition of the lung capillaries by stimulating the cutaneous circulation and thus raising the external temperature of the body, thereby withdrawing blood from the affected parts.

The febrifuge medicine has a similar effect and it also stimulates the action of the heart and assists it to drive the blood onwards through the congested vessels in the lung.

If the remedies we have applied in the early stage are unsuccessful in relieving the existing conditions or, if, we have not been called in to see the patient until the early stage has passed off—and that is not a stage of long duration, probably from 24 to 36 hours in all—we are aware then the second stage or the stage of consolidation sets in. During this stage the prominent symptoms are increased difficulty in respiration, signified by abdominal breathing of a marked nature, greater dilation of the nostrils, and in the worst cases arching of the back with an out and in movement of the anus synchronous with the respirations, and also a straddling of the fore limbs to increase the transverse diameter of the chest and facilitate its movements. The pulse is now smaller and weaker, and as the consolidation gets more widely spread the horse's limbs are scarcely able to support him, and as day succeeds day, if this stage is not followed by the third or resolution then death results either from suffocation, the result of widespread consolidation or from complications such as dropsy of the chest, suppuration, gangrene, etc. The temperature during the consolidated stage is always elevated and fluctuates not a little, generally averaging about 104 F., but varying from 103° to 106°.

Auscultation and percussion are of much value to us during this stage, and enable us to arrive at usually a very correct diagnosis. I do not mean percussion with the aid of the pleximeter and the plescor, but percussion with the middle finger of the left hand applied firmly to the chest wall, and taking the place of the pleximeter and the fleshy portion of the point of the middle finger of the right hand acting as the plescor. My belief is that percussion is not nearly sufficiently taken advantage of by the veterinary surgeon, and I have been frequently able to demonstrate clearly and unmistakably to listeners and to myself the area and extent of a consolidated portion of lung if the consolidation implicated the surface.

Auscultation enables us to make out in the consolidated portion of lung a tubular or blowing sound not unlike what is heard when air is passing through a pipe. It is due to the consolidated lung tissue, which is a good conductor, bringing the sound of the air which is rushing out and in to the bronchial tubes direct, to the ear because at this time the air cannot reach the air cells owing to their packed condition. This tubular sound is only

absent when the bronchial tubes themselves are also blocked. At the junction of the consolidated portion of lung and that which is still pervious to air we hear a roughened respiratory murmur. We next ask ourselves what are the pathological lesions in the stage of consolidation and how are we to relieve them? This stage usually lasts for several days, and is subdivided into red hepatisation and grey hepatisation. In the former the lung is solid and sinks in water. The air vesicles in the affected portion are filled with a coagulated fibrinous effusion which first appears in the lower lobes owing to the effusion being poured out in the fluid state and consequently gravitating and becoming solid. The lung is heavier, the superficial vessels of the pleura are injected and sometimes fibrinous lymph is thrown out (pleurisy). When handled the lung is firm and friable, and on section it is tough and elastic, but cuts easily leaving a surface like red granite. Under the microscope we would see the air cells filled with a delicate looking film through which the light is transmitted and enables us to observe a meshwork of fibrin attached to the walls of the air vesicle and in its meshes numerous cells composed of red blood corpuscles, white blood corpuscles, and detached epithelial cells, these blood cells having evidently passed out through the walls of the capillaries, whilst the others are derived from the active proliferation of the existing epithelial cells.

In great hepatisation, which is really an advanced stage of the red, the lung is seen to be of a yellow or reddish grey colour and sinks in water, whilst well-marked pleurisy frequently is present.

Microscopically, it differs from the red in the fact that the air vesicles are not completely filled with the exudation, and the light is not transmitted through the film, whilst a number of the cells have undergone degeneration, and are breaking down preparatory to the stage of resolution.

In order to relieve these conditions, all we can do is to keep up the horse's strength as much as possible whilst the disease is running its recognised course and try to limit the spread of the consolidation. For this purpose we apply counter-irritants and stimulants to the chest, and, if pleurisy supervene, hot fomentations to soothe the pain. The fomentations should be changed at regular intervals and never allowed to get cold during their application, and it is important, when changing, to prevent chill, and, when finished, to dry the parts as thoroughly as possible and apply locally a stimulant to the skin in the form of a thin cream of mustard and water or a little stimulating liniment.

Good nursing during this stage is of immense importance. The horse who, during the early stage, was perhaps taking a little food, now almost entirely refuses to touch it, and requires to be coaxed to eat with small slices of carrot, a handful of oats, a piece of turnip, barley gruels, and, in fact, anything nourishing the attendant can think of. However, there is one food which he seldom refuses, and I have seen the patient eat this when he would look at nothing else, namely, a little freshly-cut grass. If this is in season, and we can get it, there is nothing better.

The medicinal treatment consists of stimulating and tonic drinks, of which the following proves useful:

Ammon. carb.	1½ drms.
Spt. chloroformi	1 oz.
Tr. Gentiani	½ ,,
Aquæ. a.	1 pint.

This can be repeated at intervals of a few hours. If the case progresses satisfactorily, then in a few days the temperature is noticed to fall to 100 F. or thereabouts, and the stage of resolution sets in.

In this stage the symptoms are much less distress in breathing, although the lift is still visible, also the horse begins to feed better and becomes less

anxious looking and more noticing. He occasionally lies down for a short time, and is discharging more freely from the nostrils, the discharge being of a yellowish grey character.

On auscultation we hear the respiratory murmur beginning to return to the various parts of the lung from which it was previously absent, and every day this return is more noticeable and the breathing consequently less laboured, until eventually the sound is heard over the whole area of lung tissue. The pulse is also fuller and stronger, and the horse lies regularly.

If, unfortunately, a relapse occur and the horse die, then on *post-mortem* the following pathological lesions can be seen, The exudate in the air cells has begun to liquefy and is converted by fatty degeneration into an emulsion-like mixture of minute oil globules and albuminous debris.

This, had the horse lived, would have been easily absorbed and removed by the surrounding capillaries and lymphatics, and would have allowed the lung to regain its vesicular character.

Microscopically in the stage of resolution we see fatty granules and degenerated cells in the air vesicles, with the surrounding vessels swollen and containing numerous corpuscles, and new epithelial cells covering the capillary network and replacing the shed ones.

In order to assist nature in the stage of resolution, the indications are to liquefy the exudation, increase the expectorating power of the bronchi, and assist the absorptive power of the blood vessels and lymphatics.

For this purpose we prescribe stimulants such as carbonate of ammonia given along with iodide of potash and water, alternating this with nux. vomica, bicarbonate of soda and gentian in order to improve the appetite and aid digestion. The food should be given in small quantities at short intervals and be frequently changed in character, and when the horse is sufficiently recovered gentle exercise in a covered place, or outside if the day is not too cold, assists the convalescence.

One point, however, is of the greatest importance, namely, not to put the horse back to his work in too great a hurry, and even when fit to return to it he must, at any rate for some weeks be wrought with great care and consideration.

The complications which most frequently bring about a fatal termination in pneumonia are abscess formation, gangrene, and septicæmia. Abscess formation occurs when the inflammatory conditions are very acute, but is of comparatively rare occurrence in the horse, much more frequently gangrene is the cause. It is brought about when the blood supply is rapidly and completely cut off by the great amount of effusion into the air cavities, or when a septic condition is associated with the pneumonia. This can be recognised during life by the fœtid odour and greenish discharge from the nostrils, and after death by the characteristic sloughy appearance and offensive smell.

Equine Contagious Pleuro-Pneumonia.

This is described as an infective inflammation of the lungs, in the course of which the pleura and large organs of the body, such as the heart and kidneys, participate in the morbid process. Up to the present time bacteriologists have not, with certainty, identified the infective matter. The disease occurs enzootically principally in places where large numbers of horses are kept, and frequently about one-third of the stud become the victims of it. The predisposing causes are over-exertion, chill catarrh, and badly ventilated stables. It is said that the contagion can be directly transmitted from animal to animal by the respired air, also by intermediate bearers such as human beings, especially veterinary surgeons and grooms, healthy horses, dung, clothes, forage, strange stables, and even dogs. Convalescent horses are particularly

dangerous because they can carry about in their bodies the infectious matter for weeks in the form of dead lung deposits. The course of the disease is generally most rapid at the commencement of an outbreak, only a few days elapse between the first and the last horse becoming affected.

On an average the enzootic disappears five or six weeks after the occurrence of the last case, provided no fresh case be introduced, but there is always the risk of one or more of the affected horses during convalescence having a necrotic portion of lung tissue which may prove a source of subsequent infection when any new horses are admitted.

The mode of entrance of the contagion is most frequently the lungs, but infection may also take place from the alimentary canal. The period of incubation varies from five to ten days.

I will now give you a short history of the only undoubted outbreak of equine contagious pleuro-pneumonia which has come under my notice during a practice of several years. A batch of ten draught horses were bought by a client from a dealer, in whose possession they had been for some little time, during which they were exposed for sale in the open market. Several of the horses were noticed to be coughing, but nothing serious was apprehended further than that the trouble was an ordinary cold. All the horses were put into a large stable in neighbouring stalls. Next morning two were sent away to neighbouring towns. Shortly afterwards one of the remaining eight was noticed to be unwell, and my attention was at once drawn to it. The symptoms shown were sore throat, with a high temperature and rapid pulse, no inclination for food, and extreme dullness. Next day the lungs were found to be congested, the horse was weak on his legs, had occasional rigors, a higher temperature, and would not look at food of any kind. On the following day hepatisation of the lung could be demonstrated, and this gradually spread until a considerable portion of the lung was involved, and the friction sound of pleurisy could also be detected. These conditions continued in evidence for a few days, and were followed by pericarditis, and upon the eleventh day dropsy of the chest was diagnosed, and the horse died. The symptoms during this attack resembled those of ordinary croupous pneumonia, the main differences being the very high temperature (105—107), the peculiarly weak pulse, palpitation of the heart, rapid emaciation, and great debility which preceded death. To begin with this was a very large, powerful horse, in splendid condition, but in a few days he was a shadow of his former greatness.

The morning after the first horse took ill a second of the eight showed similar symptoms, and died on the sixth day afterwards. During the same day a third horse turned ill, showing the following symptoms: temp. 108, lungs congested; pulse small, rapid, and weak; total loss of appetite, tottering on his legs, great prostration, and sudden death on the third day. Next day a fourth horse was suddenly seized with illness, and he, showing similar symptoms, died in four days.

Of the remaining horses, one of the two which were sent to neighbouring towns never had an hour's illness, but the other one, on the very morning after his arrival was noticed to be ill, and died some four days afterwards. Another of the horses which I had under my care, after a severe illness, with great weakness, during which he suffered from pneumonia of both lungs, pleurisy, and a limited hydrothorax, eventually recovered, but the convalescence was very tedious, and at the present time, though still in the possession of the firm, and working daily, he has a weak condition of the back and a peculiar gait. The remaining four horses all continued in a state of health.

I made a *post-mortem* examination of all the horses that died with the exception of the one which took ill and died in the neighbouring town; but the veterinary surgeon who was in attendance on him informed me that the

symptoms during life, and the *post-mortem* appearances, were identical to those I am describing. The *post-mortem* of the horse which died after six days' illness revealed pneumonia, pleurisy, hæmorrhages on the surface of the lung and pleura, epicarditis and pericarditis.

The *post-mortem* of the horse which died after three days' illness revealed pneumonia and dropsy of the chest.

The autopsy of the horse which died after four days' illness revealed pneumonia, pleurisy, dropsy of the chest, bronchitis, acute tracheitis, pericarditis with effusion into the pericardial sac, and epicarditis.

The autopsy of the horse which was first attacked and died after eleven days' illness, showed dropsy of the chest, pneumonia, pleurisy, pericarditis, and nephritis.

Time will not permit of my entering into the details of the treatment of equine contagious pleuro-pneumonia, but I am sure you will agree when I say that the history, symptoms and *post-mortem* appearances of these cases I have mentioned to you, scarcely admit of any doubt as to the accuracy of the diagnosis, that it was an outbreak of equine contagious pleuro-pneumonia with which I had to deal. Fortunately, none of the other horses in the stud became infected, and, perhaps, the reason may be found in the fact that, when suspicions were aroused, the horses were at once isolated, and the stalls they had occupied were carefully cleansed and disinfected, and every precaution taken to prevent the further spread of the disease.

Discussion.

An interesting discussion followed, opened by Mr. Malcolm, in which Messrs. Beddard, Smith, Jones, Wartnaby, Grasby, Pemberton, Trigger, W. Carless (Stafford), W. S. Carless (Worcester), Paley, Forsyth, and Bainbridge took part.

Professor McCall replied to the discussion, and on the motion of Mr. Blakeway a vote of thanks was carried by acclamation to the Professor and to the President, and the proceedings concluded.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 48.)

Treatment.—"Remove the cause and the effects will cease" is a good enough guide, but must be accepted with reservations in some cases. Fæcal obstruction is one of these. Some practitioners make it a rule to give a dose of physic in every case of abdominal pain if a colic draught affords no relief and if the bowels are not opened. That used also to be my routine treatment, but I found it necessary to modify the treatment. If the obstructing mass is a large one and is very hard, and above all if there is over-distension and paralysis of the bowel wall, there is great risk of the active peristalsis induced by the aloetic dose leading to rupture of the bowel. Volvulus and intususception are also possible effects of this futile peristaltic action. I do not say that aloes is inadmissable in every case, but I maintain that it should only be given in the very early stages and after a rectoral exploration has been made and the absence of voluminous and hard accumulations has been ascertained, so far as can be. Other agents with an action somewhat similar to aloes are eserine sulphate and barium chloride. The former is best given with nitrate of pilocarpine, as this latter drug causes a great outpouring of intestinal juice which may help the removal of the obstruction.

Eserine sulph. gr. $\frac{3}{4}$, pilocarpine nitrate, gr. 2, if dissolved in a drachm and

a half of water and injected into the jugular produces copious fluid evacuation in half an hour or less.

Chloride of barium is remarkably rapid in its action. Ten minutes or quarter of an hour after the intravenous injection of 15 grains expulsion of flatus and fæces is observed. It is, however, so very energetic in its action that I do not consider it safe. Hydrochlorate of arecoline, the active principle of areca nut, appears to have an action similar to the combined action of eserine and pilocarpine. I noticed lately that a French Army veterinary surgeon had stated that rupture of the bowel and of the stomach had been much more frequently seen among cavalry horses since the introduction of these drugs.

After I have made up my mind that I am dealing with a case of fæcal obstruction, and not with an ordinary case of mild colic, I administer a large dose of linseed oil (1½ pints to a cart horse) to which I add two, three or four ounces of concentrated liquor ammonia acetatis. I also give a large enema of tepid water, and when the animal has expelled this, I inject a pint of linseed oil into the rectum. These enemas of oil I repeat three times a day. If there is no action of the bowels in twelve hours, I give ten ounces of oil and two ounces of the liquor amm. acetatis, and repeat this dose after six hours. I give no sedative if the pain is moderate, and I am assuming now that it is so, as it may be disregarded. Sedatives tend to depress the patient, and opiates, which are usually employed, have a constipating effect. If the pain is severe I still give the oil and ammonia acetate but add a carminative, using oil of cajeput in one drachm doses. I also give either intravenously or hypodermically a few grains of morphia and half a grain of atropia; sometimes also injecting an ounce of hydrate of chloral dissolved in water into the rectum. When the obstruction is in the floating colon or pelvic flexure of the colon it can be felt through the rectum and should be kneaded gently for some minutes. I believe this is very helpful. When tympanites is present the cæcum should be punctured. There are times when this does not get rid of the gas, and per rectum a portion of the bowel can be felt greatly tympanitic, this can be punctured through the rectal wall. It may he done with the ordinary trocar, but Mr. Dickinson, of Boston, has invented a special trocar and canula for the purpose which renders the operation safer.

I have not much faith in applications to the abdominal wall for the relief to pain in these cases. Still, a compress made of a big piece of felt with straps to go over the back and loins, the felt being kept wet with hot water, is perhaps worth trying, and I sometimes adopt it. Bleeding has fallen into disfavour, doubtless as a revulsion from the indiscriminate phlebotomy that used to be practised. I believe in abstracting six or eight quarts of blood from a big cart horse if the pain is severe and continuous. There are very few contra-indications to the adoption of phlebotomy here. Often the patient can only be seen once a day on account of the distance, and medicine has to be left for relief of pain. Tinct. opii. and oil of turpentine, 1½ ounces of each, does very well, and every dose should be given in linseed oil (six or eight ounces).

When a horse is affected with stoppage, should we allow him to roll? It is stated that rolling on to the back induces twist in these cases. I certainly do not agree with this dictum. I always allow the patient to assume whatever posture gives him most relief. I will say this, however, that on two occasions I saw volvulus develop after tremendous efforts on the part of the animals affected. The subject of one of these was a high spirited horse that was put to trace a cart of stones out of a quarry. The thill horse had refused, and the tracer galloping at his work had pulled load and jibber together out of the place. The same day the animal was seized with colic and died, and on *post-mortem* a distinct twist of the great colon was found. This may have

been a mere coincidence; I should not like to affirm that displacements of the body could not under any circumstances give rise to change of relation of the intestines, at the same time I think such a result exceedingly uncommon.

Bitter tonics are, I think, useful, they may help to awaken the dormant bowel. Of these Chiretta, Gentian, Quassia, or Calumba in the form of infusion can be given. Hypodermic injections of strychnine are also worth trying, or tincture of nux vomica may be given by the mouth. Sulphite or hypho-sulphite of soda dissolved in water may be given. They help to disinfect the bowel and make the mouth less fœtid. When the horse will take fluids, sulphate of soda can be given in the drinking water occasionally. Its action on the liver and on intestinal secretion ought to recommend it in chronic cases.

In the foal, obstruction of the bowels is usually due to meconium. The pain is often continuous, and may be very severe: the little animal displaying much the same symptoms as the adult. An enema of an ounce or two of *warm* glycerine (which must not be mixed with water) generally brings away an extrordinarily hard, dark coloured mass, and relief is at once obtained. If the glycerine fails to give relief it has, at any rate, most likely brought the obstructing mass within the reach of the finger, and it may by manipulation, aided by expulsive efforts on the part of the animal, be dislodged. If not, a few ounces of warm castor oil to which ten drops of oil of cajeput has been added may be administered. A rectal injection of half a drachm of chloral hydrate, or a draught containing two drachms of tincture of opium may be employed to relieve the pain.

Stercoral accumulations in the pig have their site for the most part in the rectum, and beside the usual amount of piteous groaning and grunting heard when these creatures have anything wrong, there is complete loss of appetite, but water is partaken of greedily. There is usually a good deal of sraining and the rectum is often everted. Apart from diminished peristalsis the cause is mostly to be found in too much meal, ground wheat particularly. Injections of glycerine or of oil and purgatives are the means to employ in these animals. Twenty grains of calomel can be dusted on the tongue and is a good purgative for the pig. Castor oil or sulphate of magnesia may also be employed, but the difficulties of administering liquid medicines gives a preference to calomel.

All classes of dogs are subject to obstruction of the intestines from accumulation of fæces, but pet dogs and watch dogs are, from the little exercise they obtain, particularly liable to it. Old dogs have often enlarged prostrate glands, fistula in ano and piles are also frequently seen in them, they are usually also very fat. All these conditions favour constipation and are apt to lead to obstruction. The rectum is the usual site, and the mass is excessively hard and dry—like mortar often. It may be a long cylinder extending up into the colon, it is often covered by bloody mucus; it may be felt readily after a severe fit of straining, and then will again get beyond reach of the finger. The dog affected by obstruction is dull and listless, the appetite is completely lost, but like the pig in the same condition he will drink water eagerly. There is violent straining at intervals. This sometimes gives rise to a peculiar accident, namely, paraphimosis. In the dog many nervous symptoms develop in consequence of intestinal obstruction, paraplegia, epileptiform, and tetanic seizures. The most curious consequence of obstructed bowel that I have seen in the dog was presented by a little Yorkshire terrier. He had torticolis; the head was twisted round, the nose lying near the spinal column, and on attempting to rectify the position the dog went into convulsions. There was no history of a fall or any other accident, nor could anything be found that threw light on the cause of the condition. I proposed giving an enema, but this was not

permitted and a mixture of bromide of potass. and chloral was tried. The dog remained without change for four days, and no fæces being passed, I was then allowed to give the enema, and I injected two drachms of warm glycerine. In a few minutes a long round mass was evacuated, and was followed by a good deal of blood and mucus—and odour—it was memphitic. The most villainous compound of vile smells that ever offended nostrils. Someone suggested afterwards that a probable cause of the wry neck was efforts on the part of the dog to get his nose away from the smell.

The treatment in the dog consists in giving glycerine injection to start with, and then enemas of oil and tepid water. If the mass can be reached by the finger an attempt ought to be made to disintegrate it, or an instrument may be employed for the same purpose, a curette, or a bone spoon answers very well here. A dose of castor oil may also be necessary. Fæcal obstruction in the dog is not nearly so grave as it is in the horse and pig.

Time will not permit me to say much about the complications that may arise from, or the *post-mortem* appearances seen in fæcal obstruction. Rupture, peritonitis, enteritis, volvulus, and intussusception, are all commonly met with as complications. Rupture is induced by peristaltic efforts acting on a thinned or ulcerated wall. Peritonitis and enteritis doubtless due to the action of the microbes always found in the intestines, on the peritoneum, or on the intestinal mucosa. The weight of the fæcal masses will tend to stretch and lengthen the colic mesentery and may thus lead to a twist. A paralysed portion of intestine is apt to be engulphed by another portion of intestine in active peristalsis, and thus produce intussusception.

I have to thank you for listening so attentively and patiently to these few notes on a most important subject. I am fully conscious how inadequate they are. I trust a healthy discussion may help them to be of some use.

Discussion.

The PRESIDENT opened the discussion by remarking that they had listened with great attention and interest to Professor Davis, whose paper combined both practice and theory. With regard to the practical part he acquiesced in what had been said. When he was in Scotland, and afterwards in Leeds, the steaming of horses' food was a common thing, but he thought that that system of feeding horses had to a great extent been abandoned. He quite agreed that that system was a chief cause of constipation. Bleeding in this part of the country had practically been done away with in bowel complications. He believed that rolling was a great cause of twist. He favoured a horse which suffered from violent abdominal pains having muscular action.

Mr. FLETCHER said the paper opened a wide field. The first thing, in his opinion, was to make a careful diagnosis. The various causes mentioned by Mr. Davis did not include the weather. Although they complained of the food, he often thought that cold, wet days produced pain in the bowels. He did not hear Professor Davis mention stone in the bowels. Cooked food was condemned by the reader of the paper, but he knew a large firm who steamed the food for their horses, with a satisfactory condition of things in their animals. He did quite agree with Mr. Davis, for where they saw favourable results with the cooking of food they were not surprised at people carrying out this system. Nothing had been said about damping food in a regular way, and especially about the using of linseed in the food. That was a very common practice of farmers in Lincolnshire and Nottinghamshire. He had seen a case of colic in a horse from an accumulation of worms. He had a most remarkable case in a large hound four or five years ago. Respecting twists of the bowels he had seen many cases, but rolling was not always the cause. He had had three cases where animals had been standing in slings

and had not been down on the floor. There was no doubt that they would very greatly develop as to the treatment of bowel diseases. For his own part he was a great believer in a purgative to start with. If he did not get relief in an hour then he gave a strong dose of physic. In his opinion there was great difficulty in diagnosing apoplexy of the bowels. As to the administration of purgatives he should like to hear the opinions of members.

Mr. WHARAM expressed the opinion that the majority of the bowel diseases arose from errors in feeding. Cooked food was one of the great causes. Then irregularity of feeding was another cause. Horses were very often hard worked and exhausted with a large amount of indigestible food in the bowels which not only sets up constipation but other complications. With regard to the prevention of these diseases, he believed it could be best attained by proper dieting, watering, and exercise. He thought that in a horse troubled with constipation as a regular thing it would be advisable to give the animal linseed oil and treacle mixed with its food. Regular exercise was one of the great preventatives of these diseases. As to watering he held the opinion that a horse if irregular should have a fair quantity of water before he was fed; in fact, every time before he was fed. In winter the water should be chilled. As regarded treatment, he had never gone in for bleeding. He generally gave a dose of aloes, followed by an application of mustard to the sides, and blankets wrung out of hot water, if the pains continued. He also used hypodermic injections of morphia, and, occasionally, chloral hydrate.

Mr. BOWMAN personally thanked Mr. Davis for the paper, which he had enjoyed very much, and brought under the notice of the meeting a machine which he had recommended at places where he had large contracts. The machine took all the dust from the chop and corn, and by its use the horses had kept much better and were freer from colic and other diseases.

Mr. CLARKSON said that one of the commonest causes of constipation in country practice was the use of barley pulse. This was a common food in country places and on farms, and, no matter how much they talked, they could not persuade people that it was wrong. His idea was that it was composed of very hard woody fibre, and that it probably sucked up some of the gastric juice. It, therefore, not only took up the room, but robbed the other food of the juice which was necessary for digestion. He did not care for the use of linseed oil for several reasons. He had great faith in enemas. He never used a force pump such as Reid's, but preferred gravitation, not simply Gamgee's, but an indiarubber tube as long as possible—two or three yards long. By this arrangement they had the weight of a long column of water, and not irregular force, against which the horse strained.

Mr. SNARRY described the paper as one of the best that they had listened to for a long time, and said he liked to let a horse roll.

Mr. BOWERS desired to speak only on one point—strongyles, which, he believed, was often the cause of bowel complaint in horses, especially in young horses.

Mr. SOMERS offered his congratulations to Professor Davis, and added the opinion that constipation very often arose from affection of the liver and disorders of the liver.

Professor DAVIS, in replying to the discussion, said he had omitted from his paper a lot of things which would have been included had there been time. No one would persuade him that cooked and damp food was the proper method of feeding horses. In regard to a point mentioned by Mr. Clarkson, Professor Davis remarked that in Norfolk they gave dry barley and wheat flights to horses and young stock, and it was not at all common to get constipation there. Those could use aloes who liked in cases of obstruction of the bowels, but he should never give it.

Mr. CLARKSON then moved a vote of thanks to Professor Davis for his

paper. Mr. SOMERS seconded, and the president supported, the speakers expressing the hope that they would again be favoured with Mr. Davis's presence.

The resolution was carried with acclamation.

At the conclusion of the meeting, those present were entertained to tea at the invitation of the Leeds members of the society.

CONTAGIOUS DISEASES ANIMALS ACT, 1894 AND 1896.

SUMMARY OF RETURNS OF OUTBREAKS, for the four weeks ending January 14th, 1899.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders (including Farcy).	Rabies.	Anthrax.	Sheep-Scab (for month of December).
None	Outbreaks 166 Slaughtered 3,653	Outbreaks 58 Attacked 76	Dogs 1 Other animals 0 Destroyed 4	Outbreaks 27 Attacked 43	Outbreaks 482

SCOTLAND.

None	Outbreaks 6 Slaughtered 242	Outbreaks 1 Attacked 6	None	Outbreaks 6 Attacked 15	Outbreaks 27

IRELAND.

None	Outbreaks 14 Slaughtered 219	None	Dogs 4 Other animals 2 Destroyed 21	None	None

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SERAPTHINE, the anti-"Foot-and-Mouth Disease" serum, consisting of a mixture of the natural virulent serosity and the serum from an immunised animal, can now be obtained from the Institute of Serotherapy, at Höchst, near Frankfort.

PROFESSOR DEGINE, of Brussels, is extremely desirous of meeting with a case of natural cow-pox.

THE ANNUAL STATISTICAL AND GENERAL REPORT OF THE ARMY VETERINARY DEPARTMENT FOR THE YEAR ENDING 31ST MARCH, 1898.

WAR OFFICE,
1st April, 1898.

(*Continued from page* 79.)

EGYPT.

Reported by the Senior Veterinary Officer (*Veterinary Captain L. J. Blenkinsop*).

The total number of admissions of horses to hospital during the present year was 614, or 87·22 per cent of the average strength, compared to 571, or 84·97 per cent. of the average strength in the previous year, and of mules 62, or 22·14 per cent., compared to 83, or 61·94 per cent. in 1896-7.

The casualties among patients in hospital during the year under report were 11 horses and 2 mules died, and 18 horses and 2 mules destroyed (see Table Q), compared with 6 horses and 1 mule died, and 24 horses and 2 mules destroyed in the previous year; while 1 horse and 2 mules were destroyed for old age in 1897-8, compared with 4 horses in the year ending 31st March, 1897. It will be seen that 6 horses died from diseases of the digestive apparatus, Class 6 (Table M), and this accounts for the increase in the mortality during the past year. Out of these 6 cases, 4 suffered from Enteritis, chiefly due to Strongylus Tetra Canthus; 1, a Syrian remount, died from Strangulation; and 1, an Australian, from Volvulus. The number of animals destroyed is always large in Egypt, owing to the fact that in this country cattle are chiefly used for farm work, and only horses which are fit for work on hard roads or for breeding purposes are sold, otherwise any diseased and worn out horses which might pass into the hands of natives would be subjected to considerable cruelty. This would reflect on the British Army of Occupation, as it is practically the only importer of heavy English and Colonial horses into this country.

During the past year 32 animals suffered from a disease returned as Bilious Fever. This disease is probably due, in my opinion, to a blood plasmodium. I was making some careful microscopical investigations of the blood in these cases, but unfortunately I was suddenly ordered on remount duty before any satisfactory results could be arrived at. The disease is chiefly seen in the autumn, and I hope during the next year to submit some interesting facts concerning it.

The animals belonging to the British Army of Occupation have again been free from Glanders during the past year, while 69 cases of this disease have been reported by the Egyptian Civil Authorities, 32 of which occurred in Cairo, 35 in Alexandria, and only two in the districts. The veterinary supervision of animals in the districts may not be as good as it is in Cairo and Alexandria, and consequently all the cases may not be reported. In any case the fact remains that this disease exists to some considerable extent in the two towns in which British troops are stationed, and that these troops have continued free from the disease.

In April a private pony, standing in Government stables, showed suspicious symptoms of Glanders. This animal was tested with mallein, and having reacted was destroyed, when *post-mortem* examination confirmed the existence of the disease. All the animals in the same stable were promptly tested with mallein, but none reacted, and the disease has not again appeared. The great value of testing animals with mallein is brought to notice, it is extensively used by the Egyptian Civil Authorities, who inject every animal admitted to the stables of the "Society for Prevention of

Cruelty to Animals," and the test has invariably been found to be reliable when in proper hands. The poorest and worst class of animals find their way to the Society's stables, and it is from amongst these the largest number of cases of Glanders are discovered. The remount horses and mules now being supplied for the British Army of Occupation chiefly come from Syria, where I can state from personal observation Glanders exists to some considerable extent, especially in Damascus, the chief centre of the horse trade. Animals from Syria are carefully isolated on their arrival in this country, but far more reliance could be assured of keeping the animals of the Imperial Army free from disease if instructions were given for all remounts to be tested with mallein before they are admitted to the troop stable. Arrangements could be made with the Egyptian Civil Sanitary Authorities for the supply of mallein on payment for this purpose, and as they have arrangements for obtaining this material packed in ice from England, and for storing it in ice in this country, it would be the simplest means of supplying our requirements. The Chief Civil Veterinary Inspector, Mr. Littlewood, has always supplied us gratis with mallein whenever we required it, but we cannot expect large quantities in this way.

A single case of Tuberculosis was reported during the year. This animal was destroyed, and microscopical examination showed the existence of the special bacillus of the disease.

During the past year a considerable number of remount horses and mules havebeen purchased for the British troops in Egypt, oneVeterinary Officer being absent on remount duty for the greater part of the year, reducing the staff of Veterinary Officers in this command practically by one officer. Since January, 1898, a Veterinary Officer has been absent with the Nile Expedition in the Soudan, consequently the Veterinary Officers for duty in Egypt have frequently been reduced from four to two, while the strength of animals has been considerably increased by a large number of remounts, which require extra supervision.

116 horses were cast and sold during the year, realizing an average price of £6 1s. 10d. (see Table N); this is an average increase of 10s. 10d. over that of the previous year.

18 mules were cast and sold, realizing an average price of £9 6s., being an average of £4 more than obtained in 1896.

The average age of the horses was two months more than the previous year, being 9 9-12th years as against 9 7-12th years.

The average age of the mules was 3 6-12 years less than in 1896 (see Table P).

The working of the Veterinary Department in Egypt has, during the past year, been satisfactory.

South Africa.

Strength.

There were 2,150 troop-horses and mules and 68 chargers on the 31st March, 1898, as compared with 897 troop-horses and mules and 35 chargers of the previous year. This increase was caused by the purchase of 1,403 remounts, and a transfer from England of three Field Batteries Royal Artillery with 397 horses.

Inefficiency.

The amount of inefficiency from diseases and injuries (see Table T) was 9·15 per cent. higher than last year, being 100·33 per cent. of the average strength, as compared with 91·18. In 1895 it was 97·53 per cent.

Table R (*Classes* 1, 2, *and* 6).

468 cases were admitted to treatment in this class, of which 244 were for fever, simple and bilious, 132 for fever specific (or horse sickness), and 35 for anæmia. In Class 2, diseases of the air-passages, 76 cases were admitted, 44 of which were for catarrh, and 19 for pneumonia, and pleuro-pneumonia. In Class 6, diseases of the digestive organs, it will be seen that a large number of cases were admitted in this class, principally from diarrhœa, sand-colic, etc. These admissions are to be attributed, in a great measure, to the horses being picketted out in the open at Ladysmith, and standing on a sandy soil, which the horses continually licked, and on *post-mortem* examinations being made, large unyielding masses of sand were found, causing total obstruction. Remedial measures were taken, and the lines were paved with stones, when the mortality from this cause decreased. Stables are also to be built, and it is hoped that in future the deaths from this cause will be considerably reduced.

Surgical Diseases and Injuries (*Classes* 10 *and* 13).

There is a large increase in these classes as compared with previous year, but, with an increased establishment, more surgical diseases and injuries are naturally expected. There were 828 admissions, of which 614 were cured, and only six reported as incurable.

Zymotic Diseases (*Class* 11).

A severe outbreak of Glanders occurred amongst the local transport at Etchowe, in October, 1897. Every animal was injected with mallein, and all those in which reaction set in were destroyed. From the last reports received, no fresh cases have taken place, and the animals reported healthy. Two horses were destroyed for Glanders in 7th Hussars, and one in the Mounted Infantry, Royal Dublin Fusiliers, in March, at Pietermaritzburg. Every precaution was adopted, and the disease appears, by the last reports, to be stamped out.

Mortality.

The mortality has been very heavy; 128 horses died of Fever Specific, or Horse Sickness, of which 108 died at Pietermaritzburg, 19 at Ladysmith, and one at King Williams' Town. This disease prevailed to an unusual extent in Natal. Last season was very fatal to both Government and private horses. The season was known in the Colony as a bad one.

Seven horses died of Anthrax (four at Ladysmith and three at Pietermaritzburg); three horses were destroyed at Pietermaritzburg for Glanders, and 12 mules of the local transport for same disease. Twenty horses died from Fever of a Bilious type; 16 from Pneumonia and Pleuro-pneumonia, but the largest number of deaths were from the Diseases of the Digestive Organs, viz., 148. The whole, or nearly all, *i.e.*, 119, occurred at Ladysmith, and was caused by Sand-colic, as before stated.

Owing to the large amount of sickness and the excessive mortality, Veterinary-Lieutenant-Colonel I. Matthews was deputed from England to South Africa to make an exhaustive inquiry. This report has not yet been received, but it is confidently hoped that the sickness and mortality will in future be considerably reduced.

34 horses were cast during the year, realizing an average price of £9 17s. 7d., or £1 8s. 1d. less than that obtained last year.

Rinderpest.

This plague has been very prevalent in Natal and South Africa generally. 10 oxen of the local transport died from this disease at Echowe. It is, perhaps, fortunate that at this time Government had very few oxen.

Army Vaccine Institute.

The number of persons for whom lymph was cultivated during the year was 69,524. and, with the balance remaining from last year, amounts to 74,060; of this, lymph for the vaccination of 71,103 persons was issued, leaving a balance of 2,957.

Result of vaccinations during the year :—

Stations.	Primary Vaccinations.			Re-Vaccinations.			Total.
	Perfect	Modified	Failed	Perfect	Modified	Failed	
Home	3,012	228	232	22,658	8,730	3.244	38,104
Foreign	186	15	162	341	217	905	1,826
Royal Navy ..	17	27	11	3,710	2,422	2,171	8,358
Totals ..	3,215	270	405	26,709	11,369	6,320	48,288

Home Stations.

Primary Vaccinations, percentage of success	...		93·32
Re-Vaccinations	,,	,,	... 90·64

Foreign Stations.

Primary Vaccinations, percentage of success	...		55·38
Re-Vaccinations	,,	,,	... 38·15

Royal Navy.

Primary Vaccinations, percentage of success	...		99·80
Re-Vaccinations	,,	,,	... 73·86

Number of calves vaccinated during the year was 16, the average yield being sufficient for 4,345·25 persons to each calf.

The greatest amount of lymph obtained from one calf was sufficient for 6,973 persons, and the lowest obtained was for 2,368.

Average daily issue of lymph, 194·80.

During the year, 2,189 boxes, 11,774 tablets, and 721 tubes were issued.

The total amount of expenses for the year, including cost of calves, instruments, &c., was £91 9s. 3d.

Since the opening of the Institute on the 21st January, 1889, to the 31st March, 1898, lymph sufficient for 404,571 persons has been prepared.

The Admiralty having applied for lymph to be supplied to the Navy from the Institute, sanction to the same was given, and issues commenced on April 1st last. During the year, results of 8,358 vaccinations were received, of which 6,176 were successful.

It is not generally known that all calf lymph issued from the Institute is prepared with glycerine, and that lymph thus prepared has been issued to the Army since January, 1889, and to the Royal Navy since 1st April, 1897.

I have the honour to be,
Sir,
Your most obedient Servant,
F. DUCK, Veterinary-Colonel,
Director-General, Army Veterinary Department.

To General Sir E. Wood, V.C., G.C.B., G.C.M.G.,
Adjutant-General to the Forces.

Extracts from Foreign Journals.

TUBERCULOUS ENCEPHALITIS IN A COW.

A Flemish cow, five to six years old, sent to the Alfort Veterinary School for the purposes of autopsy, showed during her life the following symptoms :—During the transit from the station of arrival to the school, this patient several times almost fell on the floor of the conveyance, on which great difficulty had been experienced in placing her. Put in a corner of the stable, she stood motionless, with her back arched, the head a little lowered, turned slightly to the left, and supported by the muzzle resting against the wall. It was difficult to shift her, and every attempt gave rise to the appearance of violent reactions, threatening to end in a fall on the ground as a consequence of vertigo. The animal refused all food, and attempts made to feed her by force had to be abandoned for fear of accidents.

The digestive apparatus revealed no symptoms, but respiration was slow and diaphragmatic; percussion and auscultation gave no symptom. The heart was beating regularly and normally. The left eye remained almost continuously shut, sight seemed suppressed on this side, as well as very much weakened on the right. Percussion of the cranium showed highly accentuated hyperæsthesia; general sensibility seemed somewhat deadened on the left side of the trunk and of the limbs; the vertebral column was supple and flexible. When made to walk, the patient's gait was regular, though a little hesitating because of her defective vision; but soon movement in a straight line was transformed into a circular movement to the right, which kept on growing narrower till the animal came to a standstill. The temperature was below the average, the thermometer registering 35·5° centigrade. An injection of tuberculin was followed by a reaction of 2° centigrade, which gave grounds for concluding that tuberculosis existed; but were the cerebral lesions to be seen round the optic thalami, the corpora striata, or the tubercles of the corpora quadrigemina of a tuberculous nature? The animal was slaughtered, and the following lesions were found :—Four or five tuberculous nodules, of the size of a haricot bean, were met with in each lung, but the retro-pharyngeal ganglia were highly hypertrophied, reaching the size of a hen's egg, and, on section, were found to be caseous and soft. The amydali showed a few small isolated tubercles. The right hemisphere of the brain was larger than the left; its appearance showed nothing irregular, but on longitudinal incision three islets of encephalitis were discovered—one in the parieto-temporal lobe, the second in the frontal lobe, and the third in the optic thalami and the corpora striata. These lesions were of a tuberculous nature, and amply account for the symptoms observed during life.—*Recueil Vétérinaire.*

ENZOOTIC OF MENINGO-ENCEPHALITIS CAUSED (?) BY THE USE OF *LATHYRUS CLIMENUM.*

In the month of August in the year 1895, when a dearth of fodder prevailed all over the country, M. Lucet had the opportunity of observing accidents which occurred consequent on the use of *Lathyrus climenum*, a leguminous plant which is generally avoided as a feeding stuff. These accidents took place 15 days after the owners had ceased giving the cattle as food green vetches, for the most part in flower, and including, to the extent of about a-half foreign vetches, represented by the *Lathyrus climenum*. This green food had been given to the cattle almost exclusively for eight to ten days. The symptoms observed were those of meningo-encephalitis or of cerebro-spinal meningitis. The symptoms were quick in appearing, and at the period stated there was observed stupefaction, accompanied by paraplegia, difficulty in taking up food, in mastication, and in deglutition, as well as amorosis. When the animals lay down the head was turned towards the flank, and it could be raised up only with difficulty. They could scarcely open their mouths, the eyes were wide open and clear, but vision was non-existent. The limbs were completely paralysed, and the sensibility of the skin was considerably diminished or destroyed. The pulse was small, but often accelerated. On autopsy of an animal which had died in consequence of this poisoning and of three others slaughtered for the butcher by advice of the practitioner, M. Lucet discovered the following lesions: blood black and thick, the cranial cavity and the first portions of the rachidian canal contained a great quantity of reddish serosity, the meninges were congested, hæmorrhagic foci could be seen on and in the cerebral lobes, the ventricles enclosed some of the reddish serosity, and were the seat of suffusions of blood. The cerebellum and the bulb presented lesions of the same kind and all as clearly marked. As for the medulla, it showed the same lesions on the first 15 or 20 centimètres, the rest being quite healthy.—*Recueil Vétérinaire.*

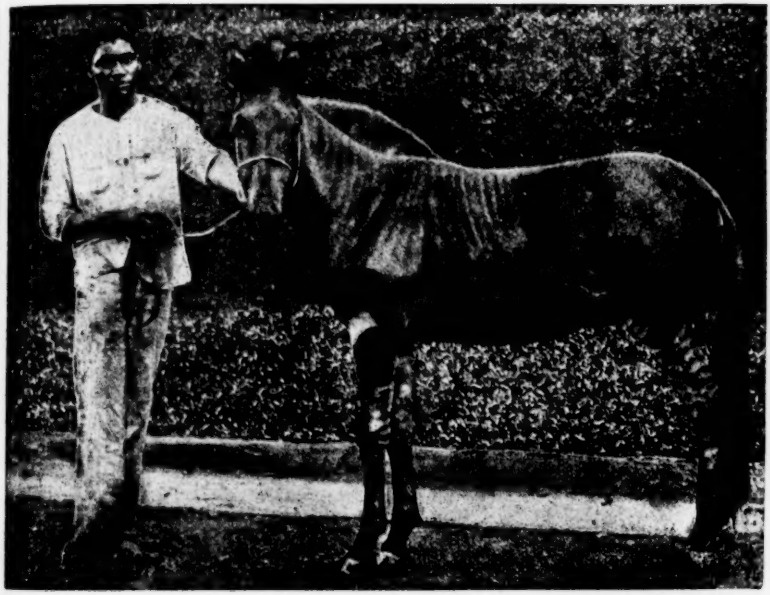
GEMINAL PREGNANCY. ABORTION IN THE CASE OF ONE FOAL, NORMAL BIRTH OF THE SECOND.

On the night of 12th December, 1896, a mare had foaled; when the stablemen arrived early in the morning, the foal, still hairless, was dead and cold. On being examined the mare gave indications of colic attacks, and violent pressure on the still attached placenta. After proper treatment the patient grew calm, and in the course of about six hours the placenta came away normally. On the third day milk appeared, and the udder and its surroundings were abnormally swollen, the swelling extending to between the forelegs. The strange thing was, that the circumference of the animal's body had not much decreased. On 16th March, 1897, that is, three months later, the mare gave birth to a healthy foal, and milk, which now made its appearance for the second time, was present in superabundance.—*Deutsche Thier. Woch.*

HYBRIDS BETWEEN ZEBRA AND HORSE.

In the *Deutsche Landwirtschaftliche Presse*, Dr. Steinriede gives an acoount of successful attempts at cross-breeding between horse and zebra. The latter species of the genus *equus* has an enhanced interest for us because of our African colonies, for there we need working animals which are accustomed to the climate. The zebra places at our disposal, with its extraordinarily powerful and enduring frame, a noteworthy active force, and is, besides, in spite of a planless and annihilating hunt, still to be found in enormous

numbers in East Africa. Various travellers and scientists have repeatedly noted the possibility and the need of the taming of these animals and of crossing them with animals of the same genus. Whilst crosses between zebra and ass are pretty frequently mentioned in literature, crosses between horse and zebra are rarer. Cuvier appears to have attempted the first cross with partial success. The zebra mare which was covered by a stallion died, however, after a gestation of eight months with a still hairless fœtus. Huet further informs us of a hybrid between a stallion and a female dauw (*equus montanus*), which was shown in 1879 in the Paris Jardin d'Acclimatisation; this animal resembled the father more than the mother in form and colouring. In the journal *Der Zoologische Garten* is mentioned, in 1884, a hybrid



Zebroid "Lordello," from a Zebra stallion and a mare; bred by Don Barao de Parana, Rio de Janeiro.

between a zebra stallion and a pony mare, which was born in the Jardin des Plantes, and was in Hagenbeck's possession. This hybrid was especially interesting from the fact that it was extraordinarily similar to another independent animal type but resembled its parents comparatively little. It was strikingly like the *equus hemionus*, and had still more resemblance to a wild ass discovered by Przewalski, and mentioned by him in the *Petersburger Zoologisches Museum*. Further successful crosses were made with a pony stallion and a zebra mare and conversely in England. Finally, Brehm communicates a case in which a quagga stallion and an Arab mare produced a female hybrid which, when covered by a stallion, gave birth to a foal which at least still possessed the short, upright mane and some of the stripes of its grandfather. Especially noteworthy are the latest experiments at crossing

between zebra and ass and zebra and horse, which show that hybrids of this cross may themselves be crossed with fruitful results. Thus the *Zoologische Garten* mentions a successful cross of a pony mare with the offspring of an ass and a zebra mare in the Kenowsley menagerie.

The illustration shows the photograph of a hybrid, which was obtained in Rio de Janeiro by the breeder, Barao de Parana, from a zebra stallion and a mare. As the illustration shows, the animal has the figure of the mother; the short ears and long tail remind one of the maternal ancestry, whilst the sire has bequeathed to the hybrid the clear zebra stripes on the neck, in the region of the shoulders and the back, and on the legs and also the short, upright mane and the hair on the muscles of the ear. The striping is on the whole somewhat washed out; it is most clearly marked on the forearm. The general colour of the animal is brown-red, the stripes are black, passing to a dark brown-red from the withers downwards.

It would be interesting to learn to which of the hitherto described seven kinds of zebras the sire belongs, and by further experiments to find out whether the cross-products are capable of propagation, and how far the attributes of the parent animals are bequeathed to their progeny.—*Berliner Thierärztliche Wochenschrift.*

Correspondence.

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

SIR,—Although it is rather late to make any reference to some of the remarks in a portion of your editorial in the December number of THE VETERINARY JOURNAL, respecting an extract of the proceedings of the last meeting of the above-named society appearing in a weekly agricultural paper. It was my intention to take no notice of the matter, but as Mr. McLauchlan Young made a short reply in the January number of THE VETERINARY JOURNAL, and he justly said, "I plead not guilty," it therefore devolves on the secretary for an explanation; not only this, but since Mr. Young's letter appeared, I, as the humble secretary of the society, have been asked by several members of the profession what was the fault. Some have asked if Mr. Young's paper was published in the weekly agricultural papers. Now the facts are these, which you, Mr. Editor, are well aware of. About three weeks before the meeting, Mr. Young sent me the manuscript of his address on hygiene; this I at once posted to you, which you had put into type, and the rough proof was forwarded to Mr. Young, who addressed the meeting from the printed copy supplied by you. I asked you at that time to send a copy of the proof to the editor of the *Veterinary Record*, but as I never saw Mr. Young's article in that paper, I cannot say if you sent it or not.

Now regarding "the very head and front of my offending," the meeting of the Border Counties Veterinary Society was held on Friday, the 28th of October, and Mr. Young's paper was published in full in the November number of THE VETERINARY JOURNAL, and on Tuesday, November 1st, I sent you the reporter's transcribed notes of the proceedings of the meeting. Surely that was quick enough, only four days between the meeting and the full particulars placed in your hands. If too late to be published in your monthly, don't blame the writer. When sending the notes, I asked you to put them into type and forward copy to the *Record*. A fortnight passed, and no account appeared in the last-named paper. I again wrote you, asking that the particulars of the meeting be sent to the *Record*. You then returned the reporter's notes, to me, which I at once sent to the *Veterinary Record*.

Now as to what appeared in the agricultural paper which seems to be the fault. I myself take the blame. The reporter, whom the society employs and pays, asked, if he might send a few short extracts of the proceedings to some other papers for which he sometimes reported. I replied that he might do so if it was going to be any benefit to him, and the *Weekly Agricultural Journal* was not the only paper in which the extracts appeared; there was nothing in them that affected the profession in any shape.

But let me ask you, Mr. Editor, how it happens that extracts of the proceedings of the Scottish Metropolitan Veterinary Medical Society, "of which you are a prominent member," appear in many of the Edinburgh papers, as well as in the agricultural paper referred to, and before finding their way into professional papers?

Now that I have pen in hand, I may be pardoned if I go a little further.

In the *Veterinary Record* of August 20th, 1898, wherein a correspondent, who writes under a *nom de plume*, *e.g.*, "A Common or Garden Vet.," and makes use of an expression of mine made at the last summer's meeting of the Border Counties Veterinary Medical Society, when on referring to the small attendance, I remarked, "some members would find an excuse to be from home even if the meetings were held in their own houses." The correspondent goes on to say "that only a favoured few could attend." . . . Many of us are poor . . . and cannot afford a 'thick-un,' but we do read on Sunday mornings the reports in the *Veterinary Record* . . . the 'weekly,' the 'monthlies' are out of date, etc." Now, Sir, if this is the great cause of the non-attendance of members at the veterinary society meetings may I say, suppose that all the veterinary medical societies combined, and decided that they would no longer engage a special man to report, and that if the various veterinary periodicals wished particulars of the transactions at the meetings, let them send their own reporter, or pay a special one to report for them. If this was done, it strikes me very much that not only the "weekly," but the "monthly" journals, would look rather blank without the full report of the articles read and the discussions at the various veterinary associations. What about Mr. "A Common or Garden Vet." then, and his "Sunday morning's reading"? I would suggest that he went to church and be a good Christian.

In conclusion, I cannot refrain from congratulating you on the paragraph respecting the prevalence of tuberculosis among cattle in Australia, where the blue canopy of heaven is their covering. Your remarks should be printed in large type and hung up in every council chamber of town councillors and board rooms of urban authorities, to show them that it is not the so much talked of limited air-space alone that favours the spread of tuberculosis.

HENRY THOMPSON, M.R.C.V.S.

Aspatria.

[Perhaps someone can explain how it was that an Edinburgh evening paper was enabled to publish a leading article referring to Mr. Young's paper—*before it was even read* at the meeting?—EDS.]

Notes and News.

STRAMONIUM POISONING.—On the 10th instant Mr. George Collings, of Hankey, informed me that his ostrich chicks were dying at an alarming rate, and requested me to enquire into the matter. I at once proceeded to his camp, and found there four birds that had died that morning. It appears that about a hundred chicks, the majority just hatched, had been put into this camp about the 7th instant, and very shortly after they began to die off, the mortality being entirely among chicks a few days old, while older birds

remained healthy. The birds were noticed off their feed during the day, and next morning would be found dead. On my arrival I made a *post-mortem* examination on the dead birds. The only pathogical lesion present was an intensely yellow colour of the liver, the texture of which, however, was firm and apparently normal. The stomach was rather full and contained, mixed with the other contents, a large number of small black seeds. I then examined the camp, and found a very large quantity of thorn-apple fruit—*Datura Stramonium*—or, as it is known in Dutch, "Stink Blaar," growing there, and a comparison showed that these were the seeds found in the stomachs. Concluding that these were the cause of death, I advised Mr. Collings to remove his birds at once to another camp. I may add that the fruits were those of last year, and were quite dry and withered on the stems, and were freely discharging their contents. There was an immense number of them scattered on the ground. On the 13th inst. Mr. Collings informed me that a few chicks had died after removal, but the mortallity had practically ceased. —J. M. SINCLIR, Govt. Vet. Surgeon, Humansdorp, *14th October.* It is not easy to understand how the possessors of stock can look with equanimity upon the rank growth of stramonium over their werf and in corners of their grazing lands. The goat is, perhaps, the only animal which seems capable of browzing upon its fœtid herbage without injury, and that same heavy unpleasant odour is apparently the cause of other stock rejecting the plant altogether. The poisonous principle, daturin, is present in largest quantity in the seeds, of which there are about two hundred or two hundred and fifty in each capsule. These seeds, conspicuous by their deep black colour if scattered upon a sandy light soil, assuredly present a very real danger to poultry and to the more valuable ostrich chicks. The experience of Mr. Sinclair's correspondent at Hankey should be made known to other farmers, so that they may be on their guard against similar losses. If the stinkblaar plants be taken at an early stage, they pull easily, and can be destroyed before formation of the capsule. There is a good deal of curious information about stramonium to be picked up, and the moral of it all tends to show the necessity for a careful foresight wherever it comes up as a weed. The seeds are known to have been used by the Thugs, or hereditary caste of thieves and poisoners in India, to stupefy their victims. Dr. P. A. Simpson, formerly Professor of Medical Jurisprudence in the Glasgow University, states that seeds of another species, *Datura ferox*, are often used by unprincipled Hindoos to reduce their aged relatives to such a state of imbecility and helplessness that there shall be a colourable excuse for depriving them of the control of their property; and there are records to show that the drug has been occasionally given in the same country to persons who have shown an inclination to embrace Christianity. This has been done with a view of producing an utter mental confusion. Even at the Cape there are traces of a similar evil practice, perhaps only occasional, in the production of the hypnotic state known as "betoovered" in bewitchment. In 1877 or '78 my housemaid was thus drugged with stramonium seeds administered in a kookje by an objectionable old man who wanted her for a second wife. Some of the seeds were in evidence, unbroken and perfectly recognizable, but I could not induce the local authorities to prosecute. In their view it was only "betoovered," whatever that may be. Perhaps they took it for hysteria, but there was the indubitable administration of stramonium, a punishable offence, I should have thought, and the delirium and hallucinations produced were quite different from any hysteric symptoms. The effects of stramonium are detailed in Prof. Johnston's interesting volume, "The Chemistry of Common Life," pp. 374–378. See also Hooker's "Himalayan Journals," vol. i., p. 66. The losses chronicled by Mr. Sinclair will serve as a caution to those who let the stinkblaar grow and perfect its poisonous weeds about their cultivated lands and camps.—P. M. O.

Reviews.

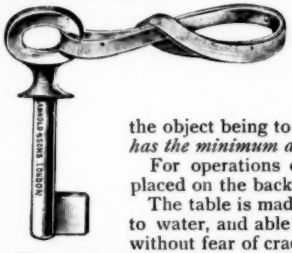
A CANINE OPERATING TABLE.

SUGGESTED BY PROFESSOR HOBDAY.

SOME time ago I forwarded a description of a canine operating table to the *Veterinary Record*, and since then I have had numerous enquiries regarding it. Finding that in many cases practitioners state that they are unable to get the table and keys made properly by the local carpenter, I have placed the matter

in the hands of Messrs. Arnold & Sons, of West Smithfield. By their kind suggestion numerous improvements have been added, and I think that it is now much more complete and useful.

The animal to be secured should be placed on the table, with loops of the hobbles, as indicated on the diagram, passed and pulled tight over the knees or elbows and hocks.



To fasten the patient in the abdominal position, the fore-limbs should be fixed firmly by placing the keys through the holes and turning them round, after which the hind legs are drawn backwards together and spread apart in a similar way, the object being to stretch the animal out *just so tight that it has the minimum amount of room for struggling*.

For operations on the under parts, the dog or cat can be placed on the back or side with equal facility.

The table is made of strong wood, practically impermeable to water, and able to be thoroughly scrubbed and disinfected without fear of cracking or swelling.

The top is moveable, and the supports can be folded up, so that when not in use it occupies no great amount of space. At the front and back are brackets constructed to hold vessels containing antiseptics or instruments.

The key hobbles are made of brass and therefore will not rust. If desired, the top and key hobbles may be obtained separately, the top being so arranged that it can be fixed to an ordinary table.

RACING ANNUAL AND FUTURE FIXTURES, edited by Major WALTER WINGFIELD, and published by "The Palace Press," 34, Buckingham Palace Road, S.W.,

Is a most handy diary, containing no end of useful information for those who have anything to do with sport, and veterinary surgeons are among them. Price 6d.

We have received the sixth volume of CADEAC'S ENCYCLOPÆDIA, which refers specially to the Blood Diseases, and those of the Urinary Organs. Also the FOURTEENTH ANNUAL REPORT OF THE BUREAU OF ANIMAL INDUSTRY, U.S.A.

Obituary.

THE remains of the late Mr. John Snarry were interred in the Norton Cemetery, on Thursday, January 5th. There was a large attendance of old friends of the deceased, who had been in practice as a veterinary surgeon at Malton, for many years. Deceased was a brother of Mr. James Snarry, the well-known breeder, of Musley Bank, Malton, who attended the obsequies, with over twenty members of various branches of the family. The comparatively sudden death of Mr. Snarry recalls a singular exploit in his professional career—one which, at the time, caused considersble interest in the veterinary and agricultural world. In the course of his ordinary practice as a veterinary surgeon, he was called to attend a valuable shorthorn cow which had broken its leg. The owner, although greatly valuing the animal for prospectivé breeding purposes, wanted to have the cow destroyed, but the deceased would try an experiment. He amputated the leg, and had a wooden leg made for the cow. This he fitted on so well, and treated the case so scientifically, that the cow completely recovered, and, for a long time stumped about with its wooden appendage, to the admiration of many interested visitors. Not only so, but the animal, in due time, bred for its owner a valuable calf, which, be it remarked, did not hereditarily succeed to the said defect of its unfortunate parent. "The cow with the wooden leg" obtained great notoriety at the time, and Mr. Snarry was widely congratulated on his skill and ingenuity.—*The Evening Press.*

Communications, Books, Journals, etc., Received.

Veterinarian; Record; British Medical Journal; Lancet; Report of the Bombay Veterinary College for year 1897-98; Chemist and Druggist; Bulletin of The John Hopkins Hospital; The Journal of Comparative Medicine and Veterinary Archives; The Scottish Medical and Surgical Journal; American Veterinary Review; Cattle Tuberculosis, by T. M. Legge, M.A., M.D., D.P.H.; The Public Health Journal; The Journal of the Jamaica Agricultural Society; The Surveyor; The Photogram; Queensland Agricultural Gazette; Petersburg Veterinary Society's Journal; C. H. Huish, H. J. Dawes, H. Locke, C. T. Kingzett, F.I.C.; Irish Times; Bulletin U. S. Department of Agriculture—Sheep Scab; La Riforma Veterinaria (Naples); Recueil de Médecine Vétérinaire (Alfort); L'Echo Vétérinaire (Liège); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); Deutsche Thierärztliche Wochenschrift (Hannover and Karlsruhe); La Clinica Veterinaria (Milan); La Revista Veterinaria (Buenos Aires); Agricultural Journal (Cape Town); Bulletin de la Société des Sciences (Bucarest).